TECHNOLOGY DEPT:

June 26, 1940

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JUN 27 1940
DETROIT

NATIONAL PETROLEUM NEWS

Thomas H. Rogers

Thomas H. Rogers, one of Standard of Indiana's "Modern Pioneers" with outstanding achievements in both fuel and lubricant research, is honored this week by A.S.T.M. Committee D-2 at Atlantic City.

REFINING TECHNOLOGY EDITION

Constant PROTECTION

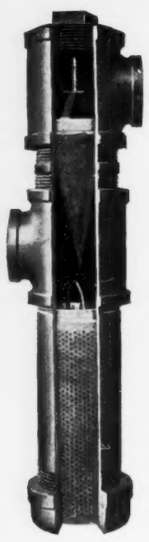

Fig. 708

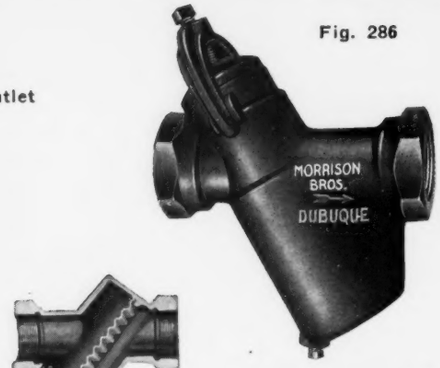

Fig. 286

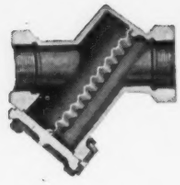

Fig. 185

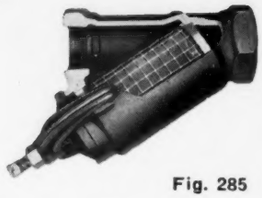

Fig. 285

MORRISON LINE STRAINERS ARE BUILT FOR IMPORTANT PROTECTION

A valuable pump is wrecked. A fine, costly meter is utterly ruined. It happened because foreign substance was pumped through the lines into the highly important machine. Sand, grit, even rivet heads and old rags are not strangers to pipe lines. The Morrison line strainer will prevent these vandals of the lines from damaging important machinery. These Morrison line strainers, inexpensive though they are, will prevent many break-downs and resultant losses of time and money. A Morrison strainer is the proverbial ounce of prevention.

Please write for full information.

MORRISON BROS. COMPANY
OIL EQUIPMENT HEADQUARTERS
DUBUQUE, IOWA

NATIONAL

COMPUTAPEX *WITH HOSE EXTENSION*

THINK of it! Service cars 8 or 9 feet away *without tension* on the hose — and up to 14 or 15 feet with very little tension. With margins what they are today, this is the pump to help you make more money because it not only costs less originally, but costs less for upkeep, maintenance and replacements.

MECHANICALLY CORRECT

In addition, it speeds up service, boosts gallonage and builds repeat business by inspiring a new confidence in your service. Every year one pump offers you more for your money; this year it's National. Write for fully illustrated descriptive literature and prices today.

NATIONAL PUMPS CORP., CINCINNATI, O.

NATIONAL PETROLEUM NEWS—June 26, 1940—Vol. XXXII—No. 26

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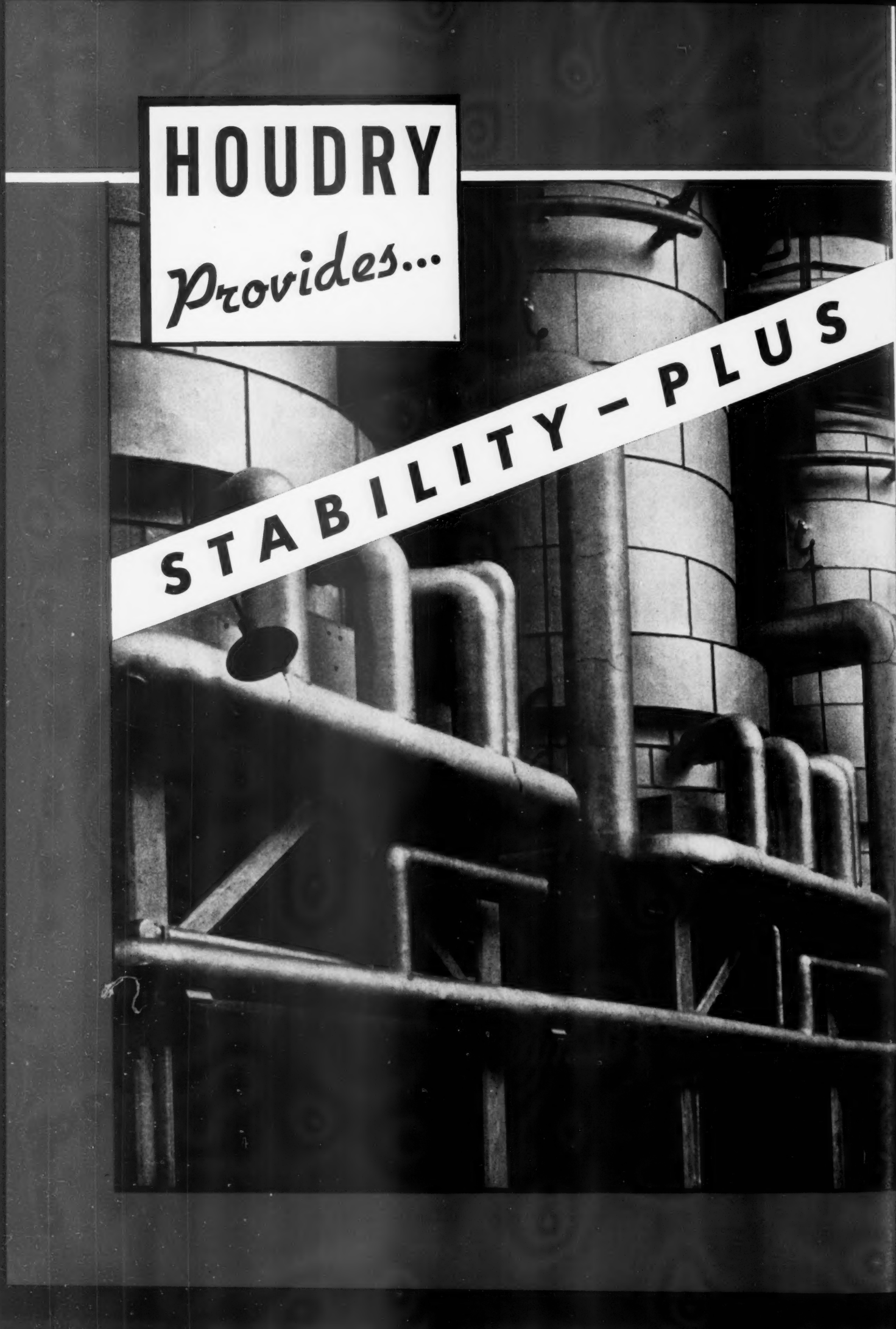

HOUDRY
Provides...
STABILITY – PLUS

HOUDRY PROVIDES STABILITY – PLUS

Untreated Houdry Aviation Fuel Before and After 14 Months' Storage

	At Start July 1937	After 14 Months September 1938
Gravity, °API	61.6	61.4
I.B.P.	107	108
10%	143	141
50%	202	201
90%	267	265
E.P.	316	316
Recovery	98.0	98.0
R.V.P. Lbs./Sq. In.	5.9	5.0
Copper Dish Gum	11	21
Glass Dish Gum	3	3
Octane No. CFR-MM	79.3	78.6

This aviation fuel was stored out of doors in steel drums. Similar tests in varying climates prove that Houdry catalytic gasoline has storage stability . . . *plus.*

Licensing Agents for the Houdry Catalytic Cracking Process

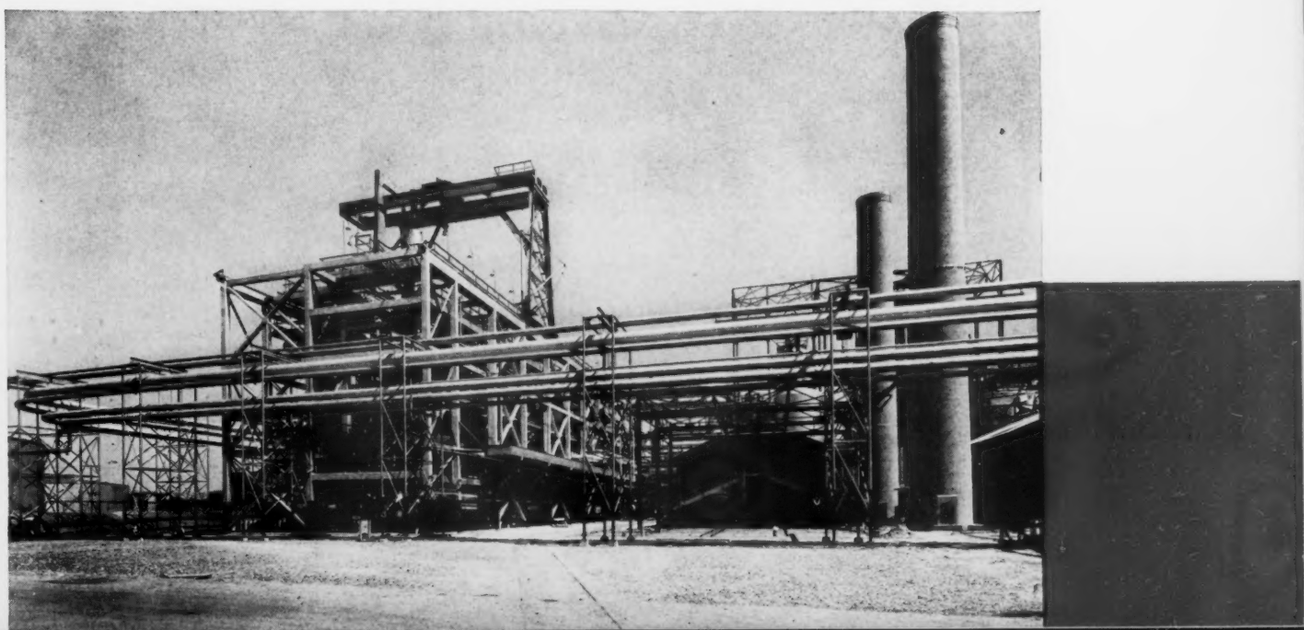
E. B. BADGER & SONS CO.

Boston, Mass.

New York Philadelphia San Francisco London Paris

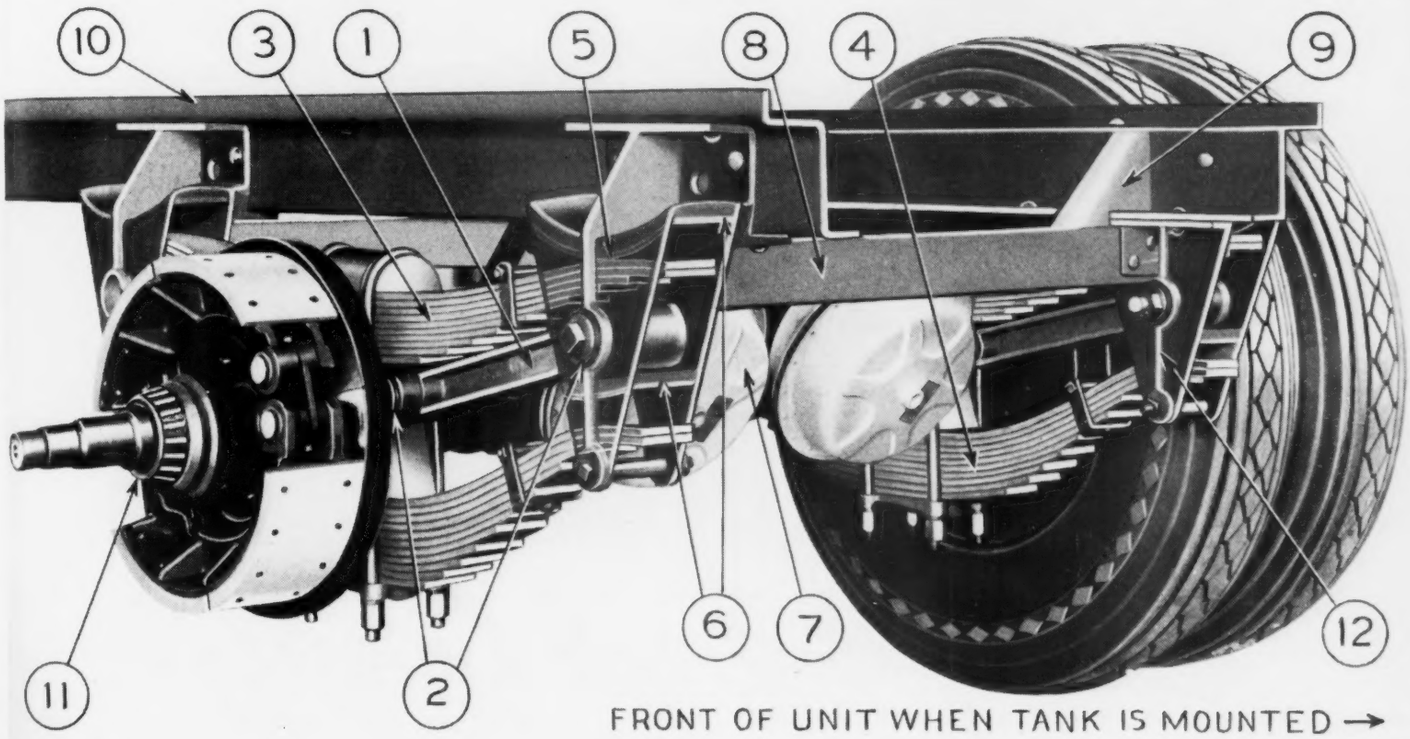
●

Engineers and Contractors
for Petroleum Distillation and Refinery Equipment



AGAIN! BUTLER STEPS *Two-Step Springing*

FAR OUT AHEAD WITH *for Twin-Tank* TRANSPORTS!



Patents applied for

FREES EMPTY TRANSPORT BODIES OF MACHINE GUN ROAD SHOCKS!

Gives Empty Tank Body A SOFT RIDE

The worst punishment a transport tank gets is when it is riding empty on stiff, heavy duty, big load carrying springs. The empty weight of the tank is not enough to start to spring such heavy springs. They cushion the tank not at all. Every road shock, jolt and jar hits the tank "in the belly" with machine gun rapidity. Such continuous and terrific beating sets up destructive vibration which is the cause of most transport tank failures. Butler's Safety Twin-Tank Transport construction, because of its from 2 to 20 times greater strength can take such punishment far longer than conventional design. But, reasoned Butler engineers, why subject transport tanks to these continuous racking strains at all—give them a SOFT RIDE while riding empty. Pictured here is the solution—The Butler Two-Step Spring Rear Axle Assembly which has:

Upper SOFT SPRINGS To Carry The Empty Body Weight
Lower HEAVY DUTY SPRINGS To Pick Up The Pay Load

Thus Butler Two-Step Springing frees the tank of destructive vibration by giving it a SOFT RIDE when empty. It cuts depreciation, adds longer life to the tank and contributes to lower per gallon-mile cost. Send today for full description of the 12-point construction which makes Two-Step Springing possible and proven practical in thousands and thousands and thousands of miles of use. Only Butler Twin-Tank Safety Transports are equipped with Two-Step Springing. Write! Today! For Full Facts!

BUTLER MANUFACTURING COMPANY 1241 Eastern Ave. Kansas City, Mo.
941 Sixth Ave., S. E. Minneapolis, Minn.

Send full information on Butler Twin-Tank Safety Transport of .....capacity with compartments of .....gallons capacity for.....truck, Together with Full Facts on Two-Step Springing.

Firm Name .....

Address .....

City..... State.....

INDEPENDENT AND HELPFUL

Design and Color

Modern markets and merchandising methods put a premium on design and color. Containers must speak for themselves! They must attract attention and insure identification.

Whether your need is for a new package or the re-design of an old one, Crown Can is equipped to serve you swiftly —most satisfactorily—and at fairest prices!

CROWN CAN COMPANY, PHILADELPHIA, PA.

Division of Crown Cork and Seal Co.

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO

CROWN CAN

SURE...Feature "The World's Largest Hot Dogs" if you like

BUT...be sure to have the *PREFERRED MOTOR OIL*

SUPER hot dogs, fancy road maps, or glorified washrooms—maybe all attract business.

But what clinches it?

Once customers drive in, a service station has to have more than frills to sell! Take the 82% who *prefer* Pennsylvania Motor Oils. There isn't a substitute on the market that will really please this big body of motorists.

But why try to sell them a substitute?

Once you make a loyal customer for 100% Pure Pennsylvania—you make a loyal customer for gas and other important items.

And here's the proof. Reports from dealers who have recently switched to emblem Pennsylvania show increases in gas sales as high as 50%!

It will pay any dealer or jobber interested in building up his entire business to look into this matter of Pennsylvania preference. Talk to a field representative or get in touch with Association headquarters.

MEMBER OF PENNSYLVANIA GRADE
Guaranteed
100% PURE
PENNSYLVANIA
OIL
CRUDE OIL ASSOCIATION
PERMIT NUMBER.....
Made from
the highest grade crude oil in the world
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TRADEMARK REGISTERED U. S. PATENT OFFICE

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
OIL CITY, PENNSYLVANIA

BETTER OILS FROM THE GROUND UP!

Oil Adviser to National Defense Commission . . .

Dr. Robert E. Wilson

No. 1 Oil Man, to date, in the national defense set-up at Washington is Dr. Robert E. Wilson, New York, president of Pan American Petroleum & Transport Co., who has just been appointed as oil industry adviser to the Advisory Commission on National Defense. He will co-operate with Edward R. Stettinius, Jr., defense commission member in charge of procurement of raw materials.

Dr. Wilson is inventor or co-inventor of 88 patents, the majority of which cover developments in the petroleum industry; he was selected to make the presentation on refining to Temporary National Economic Committee last fall; he has taught at the Massachusetts Institute of Technology; he was chosen, in 1939, to be honored with the Chemical Industry Medal, given only to those persons making a valuable application of chemical research to public welfare; he was among those honored last February as one of the "Modern Pioneers on the Frontiers of Industry" in celebration of 150th anniversary of U. S. Patent office; he received the honorary degree of Doctor of Science from M.I.T. in 1931; and only this month was awarded the honorary degree of Doctor of Engineering from Polytechnic Institute of Brooklyn.

In 1922, Dr. Wilson became assistant director of research for Standard Oil Co. of Indiana, and in 1929 he was made assistant to the vice-president in charge of manufacturing. He has been executive head of Pan American, an Indiana Standard subsidiary, for the past six years.

Dr. Wilson was born March 19, 1893, at Beaver Falls, Pa., and attended Wooster College, Ohio, graduating magna cum laude with a Ph.B. degree. He then obtained a B.S. degree from M.I.T.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, JUNE 26, 1940 NUMBER 26

R. E. Wilson Heads Oil Defense Set-Up

N. P. N. News Bureau

WASHINGTON, June 24.—The oil industry was geared into the national defense program this week by placing Dr. Robert E. Wilson, New York, president, Pan American Petroleum & Transport Co., in charge of the Natural Gas and Petroleum Section of the Raw Materials Division of the Advisory Commission on National Defense.

Dr. Wilson was selected by defense commissioner Edward R. Stettinius, Jr., who is in charge of raw materials end of defense commission set-up.

Selection of Dr. Wilson was hailed in oil circles and government quarters here as a splendid choice. William R. Boyd, Jr., New York, executive vice-president, American Petroleum Institute, told NATIONAL PETROLEUM NEWS here the naming of Dr. Wilson was a "fine selection." High praise was expressed by the A. P. I. spokesman of the "technical ability and fine organizing ability" of Dr. Wilson.

Dr. Wilson was no new-comer to the government circles here since he served here during the World War as a major in the Chemical Warfare Service and was rated as one of the outstanding witnesses for the industry last fall in the Monopoly Committee hearings. Government personnel observing Dr. Wilson's performance in discussing the petroleum refining before the Temporary National Economic (Monopoly) Committee, praised his presentation and handling of the subject.

Graduate of M.I.T.

Defense Commission's announcement said: "Mr. Wilson, a petroleum chemist, is a graduate of Massachusetts Institute of Technology where he subsequently taught chemical engineering for several years. Mr. Wilson will serve as a consultant on petroleum problems."

Dr. Wilson's selection is attributed here to recommendations of other M.I.T. men, prominent in the new defense set-up.

The Pan American president will have charge of crude oil, lubes and motor fuel since defense commission classifies all of these as raw materials. Dr. Wilson plans to spend 3 days a week on the job in Washington where he has established offices in Room 2849, Munitions Bldg., on Constitution Avenue. Inquiry by NPN today developed that

(*Continued on page* 10)

War Cuts Lube Exports

WASHINGTON—Effect of Hitler's conquests in narrowing U. S. lube export market is seen in fact that European countries have been taking about 60% of all lube oils exported from this country.

Commerce department data show that in 8 months from September, 1939 through April, 1940 U. S. lube exports totaled 8,918,000 bbls., of which 5,277,826 bbls. went to principal European countries. In same 8-month period of 1938-39, before the war, lube exports totaled 6,064,000 bbls., with 3,991,385 bbls. going to principal European countries. All European countries, with exception of United Kingdom, have been shut off now from American shipment—and the British Isles accounted for less than half of exports to Europe.

Detailed figures on wartime lube exports are discussed on page 21.

FDR Signs Tax Bill, Raises Start July 1

BULLETIN

WASHINGTON, June 25.—President Roosevelt signed new tax bill at 11:45 A.M. (EST) today. It is effective July 1.

N. P. N. News Bureau

WASHINGTON, June 25.—Increased federal taxes on gasoline, lubricating oils and oil transported by pipeline become effective July first under terms of the defense tax bill, a stopgap measure, now before President Roosevelt for approval.

Legislative action upon the bill (HR 10039) was completed Saturday, June 22, when both houses readily approved conference report agreed to the night before after two meetings by conferees to reconcile bill as passed by House and Senate.

Defense tax bill increases the tax on gasoline from 1c to 1.5c per gal., the lube oil tax from 4c to 4.5c per gal. and the rate of tax on oil transported by pipeline from 4% of the transportation charges to 4½%.

Fiscal committees of both House and Senate are agreed that tne measure is an emergency piece of legislation designed to start producing defense-financing revenues of an estimated $1,000,000,000 a year with the new fiscal year commencing July 1, 1940 and expiring June 30, 1945 unless repealed or embodied in a general revision of tax laws prior to that date. It provides for a four billion dollar increase in the statutory public debt limit to allow a $49,000,000,000 maximum limit.

Amendments Eliminated

Final legislative action followed the addition and subsequent elimination in conference of several far-reaching and controversial amendments.

Unimpeded progress of bill appeared threatened by Senate action Wednesday night June 19th in adding the LaFollette excess profits amendment (later deleted in conference) which would have imposed excess profits taxes immediately running up to 40%. Inclusion on the floor of the Senate of the Connally amendment to reach war profits income (applicable only in the event of war or a state of war) caused temporary uneasiness here for a day or two

(*Continued on page* 12)

Illinois Tops 500,000 Bbls.

By Teletype
N. P. N. News Bureau

TULSA, June 25.—Daily average crude oil production in Illinois went slightly over 500,000 bbls. the past week as more wells tapped the Devonian lime in the Centralia Field. This daily average of 502,000 bbls., reported by American Petroleum Institute is a new high for the state.

Belief was held in many quarters in Mid-Continent, meanwhile, that this daily average represents about the peak unless additional pipeline outlets are constructed. It was said in some quarters this was doubtful in view of the belief here that the situation is more or less temporary. It would require a new and substantial field, it was said, for new pipeline projects to be undertaken.

Another reason for belief output is near peak, is fact that one of major pipeline companies already has put in some pipeline proration. Company's lines have capacity of 110,000 bbls. daily but deliveries at one of main junctions has been approximately 120,000 bbls. and Carrier Company has notified shippers that they have to cut back slightly.

There was some indication that shipments by tank car were on increase but it was not believed this increase would be sizeable.

Tanker Rates Drop

By Teletype
N. P. N. News Bureau

NEW YORK, June 25.—Coastwise tanker rates continued their downward slide over the past week with "dirty" rates off 15c and "clean" rates 5c. Indications were that rates would continue to decline, boat men said.

Fixtures of 4 cargoes of 30 gravity of lighter crude at 25c and one cargo of 16 to 18 gravity fuel at 30c were reported. Last paid for gasoline was 42c. Lack of demand for "clean" tonnage fosters belief that next "clean" fixture will be below this rate.

Because of the customary summer lull, boat men did not express great concern over the rapid drop in rates, and pointed out that heating oil business is finished and gasoline stocks on the Atlantic Coast are sufficient to retard demand for tonnage.

R. E. Wilson Heads Oil Defense Set-Up

(*Continued from page 9*)

Dr. Wilson has consented to serve only temporarily, about 3 months, according to his present plans. He will decide next fall whether he will continue in the post. His service is being contributed to the government as a $1-a-year-man.

No 'Bottlenecks' Seen

The oil industry expert is surveying the industry situation to see how it stacks up under the rearmament program and demands it will be expected to meet. As explained to NATIONAL PETROLEUM NEWS, Dr. Wilson's job will be to see if there are any bottlenecks in the oil industry, and if so what should be done to eliminate them. Opinion here is that there are virtually no bottlenecks in the industry and that the industry is thoroughly capable of producing all the oil and motor fuel required to fuel a 2-ocean navy, a greatly expanded Army, Navy and Air Corps airplane armada, and a mechanized army.

Production of aviation gasoline is regarded among chief problems likely to receive early attention from the oil advisor. Inquiry into the storage capacity situation under prospective requirements also appears slated for study.

Question of producing sufficient aviation gasoline is not regarded as a serious problem, since existing operations can be stepped up accordingly and additional production obtained from higher cost units, if necessary. There is no concern over ability of the industry to produce crude and the proration control set-up fits the picture perfectly, according to official opinion here.

Chief function to be served by Dr. Wilson will be to act as technical adviser on basic research problems involved in the defense program. Another important phase of his work will be to serve as a general consultant for the various government departments on matters pertaining to petroleum and its products.

So far, Dr. Wilson is the only oil man to be taken directly into defense set-up. He is expected to name a full-time technical assistant very shortly.

No Need Government Control, Canadian Oil Report States

Special to N.P.N.

OTTAWA, June 24. — Canadian government should not dominate oil industry because prices now paid for refined petroleum products are fair and reasonable.

Briefly, this was the conclusion here this week of a 528-page report covering every aspect of the oil industry in Alberta—production, refining, transportation, marketing and control methods. Members of the Royal commission making report consisted of Justice A. A. McGillivray and Major L. R. Lipsett, both of whom oppose price-fixing by government bodies.

The report says posted prices are not fixed arbitrarily by the oil industry, but are the result wholly of competitive influences without regard to cost of production. Many of these competitive influences are world-wide in their scope. Most competitive influence, however, is the price of Montana crude at Regina.

The report states that analysis shows the rates of return on capital investment in refining is reasonable and that refining prices, based on that feature, are not so high as to call for reduction at present time.

The spread between refinery price and the wholesale price is not too large. The retail margin of 4½c a gal. in Calgary and Edmonton is reasonable, but the retail margins of 6c a gal. and upwards in smaller centers are unreasonably high. To remedy these unduly high spreads, report suggests pumps be required to display purchase price, selling price and amount of tax, as it is considered that public resentment of too high spreads and resultant lack of business would correct the situation.

It holds that without reduction in the price of crude or of transportation, the marketing area of Turner Valley products cannot be extended beyond its present limits.

It recommends the Conservation Board be given wider powers and keep a "watchful eye" over all phases of the industry, and regulate but not control it. No evidence was submitted, it states to show the industry is guilty of improper practices, of having made unduly high profits or of having demanded exorbitant prices.

State To Spend $14,000 For Texas Field Survey

AUSTIN, June 24.—State expenditure of $14,000 has been approved to make a complete and rapid survey for national defense purposes of Texas oil and gas industry, it was reported here today.

Survey will contain detailed maps showing every oil well, gas well, pipeline and rail facility, refineries and chemical possibilities of oils and gases produced. Survey is expected to be completed in 60 days with staff of 30 engineers working on project.

Tire Replacements Up 14% For May

N. P. N. News Bureau

NEW YORK, June 25.—Due to large tire replacement shipments, a 14.2% gain for May shipments over April was shown, according to report today of Rubber Manufacturers Assn.

Total unit shipments during May amounted to 5,720,249, which is higher than May, 1939, shipments by 19.2%. May replacement sales totaled 3,635,652 units, heaviest since 1934 when 3,675,326 units were shipped.

Stocks of automotive casings in the hands of manufacturers May 31, were 10,576,217 units, a decrease of 2.8% under April 30 stocks, but 10.9% above stocks on hand May 31, 1939.

Tank Wagon Prices Cut Again in N. C.

N. P. N. News Bureau

NEW YORK, June 25.—Dealer tank wagon prices for "Esso" (regular) gasoline at nine North Carolina points lost most of the "restoration" made June 13 by Standard Oil Co. of New Jersey when the company again cut prices last week in amounts ranging from 0.65c to 2.30c per gal. The latest reductions were made to "meet competition," a Jersey company official said.

The Jersey's prices had been reduced late in April, advanced on June 13. Points included in the company's reductions last week are listed below:

	Effective date	Amount of reduction	New price (ex 7c taxes)
Durham	June 22	2.30	8.9
Greensboro	June 20	0.85	10.5
High Point	June 20	1.45	10.0
Raleigh	June 20	0.65	10.5
Rural Hall	June 21	2.00	9.5
Salisbury	June 20	1.45	10.0
Walnut Cove	June 21	2.05	9.5
Winston Salem	June 21	2.05	9.5
Kernersville	June 21	1.95	9.5

Officials Talk Boat Situation With Owners

N. P. N. News Bureau

WASHINGTON, June 24.—Several governmental agencies have turned their eyes toward the "tanker situation" following complaints that "too-high" rates for movement from the Gulf to East Coast have resulted in increased fuel oil prices, it was learned today.

Among the agencies so interested are the Advisory Commission on National Defense and the Temporary National Economic (Monopoly) Committee. Conference of these 2 groups with representatives of oil companies operating tankers was held June 17, Gulf Coast refiners and other industry representatives.

Justice department remained aloof from conference which was taken as indication that the department's impending overall anti-trust suit would cover tankers.

E. B. Swanson, associate director of Secretary Ickes' Petroleum Conservation Division, is reported also to be studying the "tanker situation."

Still another conference was called last week by U. S. Maritime Commission at request of Navy officials who are interested in adequate supply of tankers to fuel a two-ocean navy.

Maritime Commission officials, however, were apparently unconcerned over any scarcity of tankers for national defense, pointing out that nearly every one of the larger companies had several tankers on the ways. (There are more than 60 tankers under contract or under construction now, with tonnage totaling over 600,000 tons). Maritime Commission's tanker construction program is nearing completion (See Page 19).

European Charters Cancelled

WASHINGTON, June 25.—U. S. Maritime Commission has clamped a ban against tanker charters both by Americans and aliens for voyages to ports in Spain, Portugal and Canary Island.

Justice Department Drops Washington Dealers' Case

(See Page 18 for earlier story)

By Teletype
N. P. N. News Bureau

WASHINGTON, June 25.—Justice department today announced suspension of its anti-trust investigation of "the fixing of gasoline prices" here, declaring that the Gasoline Dealers of Washington, Inc. "has abandoned" the alleged price stabilization program and "is taking steps to surrender its charter."

Decision to "suspend" the investigation followed negotiations over period since May 21 when justice department pounced upon local dealers' organization immediately following a local newspaper item purporting to tell of an arrangement among local dealers whereby price discounts of 2c and 3c off posted prices would be discontinued to all except commercial consumers. Justice department subpoenaed officials, books and records of the dealers' organization through local federal grand jury.

Coincident with announcement of settlement of the case it was noted that the discount signs were beginning to reappear today.

Official justice department announcement stated:

"The following letter, addressed to Assistant Attorney General Arnold by officials of Gasoline Retailers of Washington, Inc., sets forth its present position in detail:

"'On May 21st it was announced that the anti-trust division of the Department of Justice proposed to investigate the activities of our association which is known as Gasoline Retailers of Washington, D. C., Inc. It is our understanding that the basis for the proposed investigation was the report that on the preceding day a majority of the local filling station operators had attended a meeting held under the auspices of the association and had adopted a program designed to eliminate the prevalent practice of selling gasoline at a discount.

"'Upon learning of the proposed investigation, representatives of the association immediately called upon members of your staff. The activities of the association were explained in detail and all records were made available to your staff. No further steps have been taken to carry out the program sponsored by the association and presented to the members by Mr. John H. Donahue of Pittsburgh, Pa.

"'It has always been the purpose and intent of our association to act within the letter and the spirit of the law. After conferring with members of your staff, we have decided to discontinue Mr. Donahue's program. Steps will be taken forthwith to effect the dissolution of our corporation, and such proceedings will be expedited with all reasonable dispatch.

"'We have already dispensed with the services of Mr. John H. Donahue, who was promoting the former program, as well as Mr. Earl A. Nash, executive secretary of our organization.'"

Oil Embargo Power Given to President

N. P. N. News Bureau

WASHINGTON, June 24.—The President will be empowered to curtail or embargo exportation of oil and gasoline for national defense reasons by issuing an executive order under language included in legislation finally approved by Senate, June 22, to expedite the strengthening of national defense.

Final section of the bill (HR 9850) was amended on Senate floor by Senator Schwellenbach, Dem., Washington, to specifically cover oil and gasoline shipments under language including supplies necessary to the "operation" of military machinery such as tanks, airplanes, trucks, and tractors. House approved Senate conference report June 21. (For text of provision, see NPN June 19, Page 8).

North Carolina Oil Jobbers Go Ahead with Price Case

RALEIGH, June 22.—North Carolina Independent Oil Jobbers Assn. decided at meeting June 19 to prosecute their complaint alleging "price discrimination and unfair competition among major oil companies" before Federal Trade Commission, E. B. Juliber, secretary, announced today.

Association authorized Mr. Juliber "to devote next several weeks in obtaining required evidence and submitting it to FTC in Washington."

Original protest by North Carolina Association followed reductions late in April ranging up to 2.7c per gal. in tank wagon gasoline prices.

Contents...

• NEWS

R. E. Wilson Heads Oil Defense Setup..... 9
FDR Signs Tax Bill, Raises Start July 1..... 9
Illinois Tops 500,000 Bbls. 9
No Need of Government Control, Canadian Oil Report States 10
Justice Department Drops Washington Dealers' Case 11
Price Advance Not Barred But Can't Call It a 'Tax' 12
Patman May Ignore Stations in Next Anti-Chain Measure 13
The Editor's Page 14
Colorado Secretary Enters Upon Duties..... 16
Weber Names Groups for Work of O.P.M.A... 16
Arnold Cites Dealers' Case As Anti-Trust Achievement 18
Tanker Program to Aid Defense Nears Its Goal 19
Pennsylvania Lubes Seek Wider Market in U. S. 20
U. S. Lube Exports to Europe Cut 50%..... 21
Nazis Must Win Before Oil Runs Low or Drop Offensive Soon, Says Expert..... 21
Texas Production 'Holidays' to Curtail State's Output 22
U. S. 'Gas' Demand Gain Will Be 8.5% in July 23
Latest Oil Industry Statistics..... 24

• MERCHANDISING

Engineering Facts to Help Sell Lubrication.. 25
'Free' Burner Service Disappearing As Fuel Oil Margins Narrow 34
Mid-Western Fuel Oil Marketers Prepare for Next Heating Season..... 40
Wage-Hour Division Rules on Trucking Employes 42

• MARKETS

Mid-Continent 46
Pennsylvania 46
Mid-Western 46
California 46
Atlantic Coast 46
Gulf 46
Refinery Prices..47, 48
Seaboard Prices... 49
Tank Wagon Prices 50, 51
Crude Oil Prices 53, 54

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FDR Signs Tax Bill, Raises Start July 1

(*Continued from page* 9)
until it, too, was thrown out in conference. Oil industry was concerned over the provision of the Texas solon's proposal insofar as it provided for a 50% reduction in present percentage depletion allowances on income from oil and gas wells. Existing rate of 27½% allowance on gross income would have been halved to 13¾% and current rate of 50% allowance on net income would have been reduced to 25%.

Will Come Up Again

Elimination of the amendments of Senators LaFollette, Wis., and Connally, Texas, in conference does not remove threat of these proposals entirely but in combination with prospective general tax revision at regular session next January constitute a triple threat against business and industry in general and oil industry in particular.

The price paid to Senate conferees for yielding on LaFollette amendments was the adoption of a resolution declaring it to be a policy of the taxation committees of both branches to report an excess profits tax bill applying to all taxable years after Dec. 31, 1939 (including the current year) and asking Treasury to submit studies and a report on this matter by October 1.

Determination also to write a general tax revision bill was indicated by resolution adopted by House Ways & Means Committee—at behest of its Republican minority — committing committee to this policy and also by expressions from Senate Finance members favorable to a general overhauling of law during presentation of testimony by Secretary of the Treasury Morgenthau and his aides.

Prospect of a general tax revision next January carries threat of a further increase gasoline tax to make it a 2c-per-gallon levy. A one-cent hike was discussed here originally at the Capitol and the Treasury but the raise was held to half a cent at insistence of members of Congress who feel federal government should not usurp this tax field from the States.

Oil industry escaped a 2c-per-gallon gasoline levy by action of Senate Finance Committee in shifting tax burden House added to tobacco to the amusement-admission tax schedule. Majority Leader Barkley of Ky. suggested the 2c gasoline tax in discussion at the hearings before the Senate Finance Committee to ease the tobacco levy.

Oil industry will feel the tax increases also in the 1% hike in existing corporation income taxes in all brackets commencing with an increase from 12½% to 13½% in incomes under $5,000 to 19% instead of 18% on incomes over $25,000.

Price Advance Not Barred But Can't Call It a 'Tax'

N. P. N. News Bureau

WASHINGTON, June 24.—There is nothing in the defense tax bill which bars a price advance on same date that increased tax on gasoline and lube oils goes into effect—12:01 A.M. Monday, July 1, 1940—but there is a provision in existing revenue law which makes it illegal to attribute any price increase to a Federal Tax unless the tax was actually paid.

New tax bill, now before President Roosevelt for signature, makes no changes in applicability of federal taxes on gasoline and lube oils. Under the new bill, like under existing law, these taxes are "manufacturer's taxes". Sales by manufacturers (except to other manufacturers) after June 30 will be taxed at the rate of 1.5c per gal. on gasoline and 4.5c per gal. on lube oils (instead of present rates of 1c and 4c, respectively).

Gasoline and lube oils purchased by jobbers and other resellers before midnight, June 30, will be taxed only at present rates (1c and 4c, respectively). Similarly, gasoline and lube oil stocks held by jobbers on July 1 will not be subject to the half-cent tax increase.

There were rumors in the Mid-Continent and other market centers several days ago that the new tax bill had been amended to ban any increase in prices on material bought prior to July 1, effective date of the tax increase. Re-check here disclosed no such amendment in bill. These rumors were apparently based on Section 3325 of existing law (cited above) prohibiting sellers from attributing price increases to taxes unless such taxes were actually paid by seller. But this law does not prohibit price advances, not attributed to tax increases.

Tax Law Quoted

Full text of Section 3325 of Internal Revenue Code (existing law, not the new tax bill), entitled "penalties for false statements to purchasers regarding tax," follows:

"Whoever in connection with the sale or lease, or offer for sale or lease, of any article, or for the purpose of making such sale or lease, makes any statement, written or oral, (1) intended or calculated to lead any person to believe that any part of the price at which such article is sold or leased, or offered for sale or lease, consists of a tax imposed under the authority of the United States, or (2) ascribing a particular part of such price to tax imposed under the authority of the United States, knowing that such statement is false or that the tax is not so great as the portion of such price ascribed to such tax, shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not more than $1,000 or by imprisonment not exceeding one year, or both."

Louisiana Allowable Set

TULSA, June 24.—Allowable production in Louisiana during July has been set at 280,371 bbls. daily average, a net increase over June allowable of 205 bbls. daily.

Oklahoma's allowable will remain unchanged at 408,100 bbls. daily under the 90-day proration order issued May 1.

New Economic Axis Will Include Oil

WASHINGTON, June 25.—Creation of a Western Hemisphere All-American economic axis to counter possible economic pressure upon South American republics by a German-dominated European trade, will bring oil within its orbit, program for economic co-operation indicated here today.

Opinion as to how this new economic axis will affect Secretary Hull's reciprocal trade agreements differs in Washington circles. President indicates it will not replace former agreements. Venezuelan oil imports are expected to play major role in this set-up.

'D. J.' Redraws Oil Suit

N. P. N. News Bureau

WASHINGTON, June 25.—Fate of justice department's impending anti-trust suit to divorce pipeline and marketing operations from oil company control was clouded today with authoritative reports that the bill of complaint is now being redrawn again and that it probably will not be ready for filing for several weeks yet. This development followed on heels of reports last week that the suit was to be sprung this week.

DEATHS

Arthur T. Doremus

Arthur T. Doremus, who retired in 1936 as assistant secretary of Socony-Vacuum Oil Co. Inc., died of heart failure at his home in South Orange, N. J. last week. Mr. Doremus had been connected with the oil industry 40 years at the time of his retirement.

He joined the old Standard Oil Co. in 1896 and when that was dissolved in 1911, he became assistant secretary of the Standard Oil Co. of New York. With the merger of that company and the Vacuum Oil Co., he continued as assistant secretary of the new organization.

Mr. Doremus is survived by his widow, Maude S. Doremus; one son, Leroy A. Doremus of Packanack Lake, N. J., and one daughter, Mrs. Ruth Jewel of Westfield, N. J.

H. H. Hathaway

H. H. Hathaway, 60, Mankato, Mo., division manager of Standard Oil Co. of Indiana, was killed instantly in an automobile collision at Dakota, Mo. Mr. Hathaway had been division manager at Mankato for the past year. He was manager of Indiana Standard company at Minot, N. D., from 1914 to 1928, and later at a Fargo branch. In 1933, he left Fargo for Quincy, Ill.

* * *

Charles M. Dodge

Charles M. Dodge, died June 11 at an Erie, Pa., hospital. Mr. Dodge was at one time secretary and treasurer of the Bradford Oil Exchange and a member of the New York Stock Exchange.

OIL TAX NEWS

Patman May Ignore Stations In Next Anti-Chain Measure

N. P. N. News Bureau

WASHINGTON, June 24.—Possibility that gasoline filling stations may not be included in future anti-chain store legislation arose here today upon intimation by proponents of Patman Chain Store Tax bill that they were not absolutely determined to include filling stations in such legislation.

Intimation to this effect was given authoritatively, together with announcement by Rep. Patman, to NATIONAL PETROLEUM NEWS that he would ask full membership of Ways and Means Committee to pass upon question whether chain-store legislation should take the form of tax legislation or a regulatory measure.

Decision to ask full committee determination of point follows ruling last week by McCormack subcommittee declaring Patman's Chain Store Tax bill (HR 1) approached problem from the punitive or tax angle, rather than from regulatory angle. McCormack group voted 3-3 to this effect with Chairman McCormack breaking the tie and holding it regulatory legislation, not tax legislation, was proper approach.

Congressman Patman, it is understood authoritatively, will not insist upon inclusion of gasoline filling stations and holds it matters little to him whether filling stations are in or out. This view coincides with an earlier expression by Patman as to elimination of language exempting filling stations when he said he agreed to include filling stations because majority viewpoint of his advisors seemed to favor it.

Bill Exceeds Powers

Conclusion reached by McCormack subcommittee was that federal taxing power cannot be used to limit or eliminate chain store operations. Group tabled the bill and disbanded the committee.

Subcommittee Chairman McCormack stated; " there was a feeling among members of the subcommittee that if legislation along such lines was considered necessary by reason of any fear of the threat of monopoly as advanced by its proponents, that such legislation should be of a regulatory nature and not punitive through exercise of the taxing power. Such legislation would not be within the jurisdiction of this committee."

Subcommittee action not only killed the legislation for this session, but undoubtedly amounts to a considerable setback for the entire idea so far as taxing chain outlets is concerned. Those familiar with Congressman Patman's record feel, however, that the Texan is bound to come back with another proposal on this subject. Patman has devoted considerable time and effort to this subject in recent years. (For complete information on provisions of bill and testimony at hearings, see NPN, April 3, page 2; May 13, page 13; May 15, Page 15; and May 22, page 16.)

Refinery Exemption Bill Goes To White House

WASHINGTON, June 24. — Senate on June 22 passed bill (6207) amending internal revenue code to exempt petroleum, gasoline and oil-refining stills from registration with alcohol tax unit of internal revenue bureau. Bill passed senate without amendment, and now goes to White House where approval is foregone conclusion.

TPD Cancels Bid Dates

WASHINGTON — July dates set by Treasury Procurement Division for opening bids to supply gasoline for Government requirements in Oct.-Dec. quarter have all been postponed indefinitely, Treasury Procurement Division announced today. It was said at Department that invitations and instructions are now being studied for possible revision which accounts for postponement.

CLEVELAND, June 17.—Gasoline consumption in the state of Ohio increased 5.290% for the first 4 months of 1940.

Motor Vehicle Taxes Continue Steady Climb

DETROIT, June 24. — While comparatively few people in the United States know what $1,000,000 looks like, the fact remains that this huge sum is only a small portion of the daily tax payment made by owners of motor vehicles, according to Automobile Manufacturers Assn.

This association states that $1,000,000 is paid out daily by truck owners alone, and that "taxes on motorists are at an all-time high. As the forthcoming issue of the statistical yearbook, Automobile Facts and Figures, will point out, motor vehicle users paid out $1,634,994,000 in local, state and federal taxes in 1939. Motor trucks paid $432,403,000 of that total.

"Products of the passenger car and truck factories are leading producers of tax revenue, contributing one out of every $8 collected for taxes in the country."

In a recent report made by Joseph B. Eastman, former Federal Co-ordinator of Transportation, it was said that the motor industry was the single transportation system not aided by government funds.

THIS CHECK IS IN PAYMENT OF THE FOLLOWING:

ITEM	AMOUNT
MOTOR VEHICLE USER TAXES	
FEDERAL	317,567,000.00
STATE FEES	428,994,000.00
STATE GAS	816,433,000.00
PERSONAL PROPERTY, TOLLS, & LOCAL TAXES	72,000,000.00
TOTAL	1,634,994,000.00

UNITED STATES OF AMERICA

JANUARY 1ST TO DECEMBER 31ST 1939

MOTORISTS' BUDGET & EARNINGS BANK

48 STATES AND D. C.

Pay to the order of ----- TAX COLLECTOR ----- $1,634,994,000.00

One Billion Six Thirty-Four Million Nine Ninety-Four Thousand and no/100 DOLLARS

Motor Vehicle User

—Courtesy Automobile Manufacturers Assn.

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Oil Prepares for Defense With an Able Leader

The oil industry has finally begun another war relationship with its government that promises to be far more lasting and to hold more serious eventualities, than the relationship of the last World War.

However, the present relationship begins most auspiciously in the appointment of one of the oil industry's ablest scientists and executives to the position of right-hand-man to Raw Materials Administrator Stettinius, of the President's new Advisory Commission on National Defense. That oil industry representative is Robert E. Wilson, graduate of the famous scientific school of Massachusetts Institute of Technology whose graduates are so numerous in the newly created industrial staffs at Washington. Mr. Wilson is holder of a doctor of science from M.I.T. and for years headed the scientific development of the Standard of Indiana. Of recent years he was on the board of directors of that company and for the past half dozen years has been the executive head of the Pan-American Petroleum & Transport Co. operating refineries and a big marketing business particularly in the troublesome marketing territory of the eastern seaboard.

All of this experience especially fits Mr. Wilson for his new "$1 a year" job under Mr. Stettinius, where he will not only have to aid in the easy flow of our raw material—crude oil—but particularly help the industry in interpreting and then in supplying the government's wants for petroleum products for its much expanded war purposes.

Undoubtedly as government demands increase Mr. Wilson will have to organize a staff from the oil industry. Because of his wide acquaintanceship among the younger as well as the older men of all branches of the oil industry, the men who have been bringing to this industry of late years so much of its advancement in technique of science and management, Mr. Wilson will be able to organize such a staff that will be most effective and at the same time truly representative of the oil industry.

An Informed Industry Necessary

Now as to some of Mr. Wilson's problems and responsibilities that will arise most rapidly these swift-moving war days. The chances are that the nature and extent of the oil industry's future relations with government may be shaped quite largely by the manner in which Mr. Wilson carries on his job or is permitted to carry on, and by the way in which every one in the oil industry co-operates with Mr. Wilson.

This may be building up Mr. Wilson's responsibilities to dismaying proportions to him but with the hearty co-operation of the industry, and if government leaves him alone, the industry need have no worry over the quality of the job that he will do. The capabilities which have carried him to a top executive job from a chemist's laboratory, justify the industry in having full confidence in him as he faces these new and unknown tasks.

One great problem before Mr. Wilson will be how to keep the oil industry informed so that it can co-operate as it should and yet not violate any "war censorship" or spend all his time making speeches to oil audiences. While Mr. Wilson is an adviser to the government and is on the government payroll to the extent of $1 a year he at the same time is the titular leader of this oil industry in its war defense effort. As such he will have to lead the industry and he cannot lead it in silence.

Mr. Wilson is most capable of speaking for himself and in interesting and forceful manner. But, in his new job he is a government employe as well as an industry representative and that is where he may find his first handicap.

During the late code period Oil Administrator Ickes took the position that all the oil men called to the P. & C. Committee and its subcommittees, were but advisers to him and the President, and that therefore none could say a word—that all the talking would be done by Ickes. The P. & C. Committee early raised the question that it would like to "report" to its industry but Ickes cracked down so hard on them that the committee remained silent thereafter. Yet that committee was considered by Roosevelt and Ickes as leading and educating a vast industry in the ways of the New Deal's "recovery" efforts and that all committee members were "representing" the industry. How can men "lead" an industry, or "represent" it properly if they cannot talk to it fully and frankly?

We wonder if there ever would have been a "Madison case" if there had been the fullest and freest public relations between the P. & C. Committee and its various subcommittees and the industry? The administration could hardly have backed out of its co-operative effort with the P. & C. Committee if there had been complete publicity of all their mutual acts.

In the last World War the affairs of the oil industry were literally run by its Petroleum War Service Committee, headed by the late A. C. Bedford, then president of the Standard Oil Co. of New Jersey. This committee was the first gathering of all the widely divergent interests of the oil industry, interests that had fought for years. Only a few years before the outbreak of the war, the famous suit dissolving the old Standard Oil Co. had been won by the Independents. This war committee was first named by President Wilson's administration and then many Independent oil interests were added to it by Chairman Bedford.

It was a most unusual and unexpected set-up, that the head of the late "oil trust" should be the dominant figure to lead a greatly divided industry, one broken up for a half century by its own wars. But the chairman of the committee and president of the Standard Oil Co. was a most remarkable man. He had the patience of Job and the fairness of a Solomon. All who came in contact with him dropped their personal grudges as they found they could deal with him "straight across the table." His word was good and he was more than fair and open-minded. So voted scores of men who personally came to deal with him.

Mr. Bedford was his own press agent. Schooled in the old Standard Oil policy of silence he approached his new task of talking to a big industry with caution. But he moved rapidly as he became acquainted with the men of the oil industry. Some mass meetings were held out in the West and addressed by Mr. Bedford. They were big and also most successful.

Mr. Bedford talked to the press directly as much as war secrets would permit but he never fell for the Washington bunk of calling even the simplest and obvious facts "war secrets."

So well and so generally did Mr. Bedford impress his fairness on the oil industry that at the close of the war a nominating committee dominated by Independent oil men, three times offered him the presidency of the newly organized American Petroleum Institute. Each time he declined, as he said, on the advice of his associates. Many of us felt that his associates had not advanced as far as Mr. Bedford had in their conception of industrial public relations.

Perhaps Mr. Wilson's destiny will not lead to all the things that fell on Mr. Bedford to do in the relationship of oil and government. But one can never tell. Events are moving swiftly and the man

who can do the job is quite likely to get more things to do. Such, we believe, is the fate of Mr. Wilson, and we have no misgivings if such be the case.

However, we urge on him and those who become his associates, that they are representatives of a great American industry composed of more than a million American citizens. We urge that Mr. Wilson and his future associates not overlook the greater job which is theirs, amid the rush of getting plenty of aviation gasoline or tractor fuel and lube oils to where the Army and Navy want them, and that job is of keeping this American oil industry a free and independent industry. The same job devolves on those representing other industries.

This freedom of the oil industry, such as it may turn out to be, can only be accomplished by maintaining the co-operation of the industry in all things, in the fight for industrial freedom as well as in the fight for more products. This co-operation can only be had in its fullest by taking the industry into the confidence of its leaders as much as real "war secrets" will permit. The ardent totalitarian advocates who have dominated the New Deal will quite likely make the most of the need for "war secrecy" to further their own plans which have always contemplated only "planned" publicity, with which to educate the proletariat to their ways of thinking and doing.

Our industrial leaders at Washington in this war defense, are going to find their problems complicated by the difficulty of determining the three grades of "war secrecy"—the true "war secrets"—the bunk that pompous individuals like to hand out to hide their own shortcomings or to swell their own importance—and the activities of the totalitarians who will seek to cloak their activities against industry and American freedom under the heading of "war secrets."

Get It in Writing and with Witnesses

Another grave problem before all industrial leaders at Washington, and particularly the oil industry, will be the protecting of their industries against unfair alleged "anti-trust" attacks of the New Dealers, both now and in later years, if the New Deal is to continue as many believe.

Attorneys for the industrialists who have been called to Washington have been making a keen point of this but to date no announcement has been forthcoming from the administration. The answer, whatever it is, is supposed to be still on Roosevelt's desk, though there are seemingly authentic reports that this Republican convention will be greeted with blanket indictments of hundreds of oil men and particularly of the Pew family, one of which has taken a prominent part in Republican politics to the great discomfiture of the New Deal.

Business men are not asking for the privilege of violating the Sherman anti-trust law, but they are asking that what they may be called upon to do in this war emergency, not be interpreted against them as possibly "affecting" price, to use the recent words of the U.S. Suprene Court when it cast aside its long-established "rule of reason."

The answer undoubtedly lies in each industrialist taking his own attorney with him wherever he goes among government departments and referring all matters to the attorney before acting. The answer for the attorney probably is to require all matters that might possibly be interpreted by a biased New Deal Department of Justice or its courts against his client, be put in writing with plenty of witnesses present and certifying to the statements.

What industry did in the last war and what it should do now in co-operating with government are two entirely different things. In the last war there was no question as to the personal honesty, honor and integrity of the Wilson administration much as people may have questioned its judgment. But in approaching this war business today one cannot help but view with great alarm the record the New Dealers have written the past 7 years, a record that says "beware" to all business men approaching it.

The extent to which oil man Robert E. Wilson and his associates of tomorrow can keep their relationships with this government out in the open before the entire oil industry that they represent, the safer it will be for them as well as for all in the oil industry. That there may soon be a Republican at the head of the Army and Navy departments does not argue to any less caution, as these will be way in the minority in the Roosevelt cabinet. The administration's policy will continue to be set by Roosevelt and his New Deal associates.

* * *

Loss of Exports Should Not Wreck Prices

Hitler's taking over most of Europe is shutting off many of America's exports including oil. Crude oil and its products have backed up into refiner's tanks in this country particularly since the destruction of refineries and seaboard storage terminals in Holland, Belgium and France. Prices in this country consequently have weakened.

Here is where the oil industry should use sound price philosophy. Just because the export markets have been materially reduced is no reason in itself why exporters should write their prices down? Just because surplus may be accumulating in storage in this country is no reason why sellers should drop their prices?

The first act on the appearance of a surplus should be cutting back of refinery runs and even crude oil production. This preserves a reasonable price. Unfortunately too many refiners—and producers—in the oil industry seem to believe that they can "trim" their prices a "little bit" without any one hearing of it and in that way sell products to the customers of others. These are the people who protest and deny the most as price reporting mediums report their prices.

This country's consumption of petroleum products is increasing rapidly. Soon will be added to normal consumption that of our war defense.

Any decline in price now would normally be but temporary. However oil men should not overlook that any advance of price over the next few years, no matter from what low and unprofitable level, is most certainly going to be greeted by various militant groups, not the least of which are the New Dealers and their Department of Injustice. Their aim is to bring about constantly lower prices. The head of the anti-trust division of the Department of Injustice is always seeking lower prices through his efforts regardless of whether they are justified.

From now on oil and all other industries can expect much opposition to any price advances no matter how well warranted. Prices will be kept down even though admittedly they put competition out of business. This has been much heralded by Assistant Attorney General Arnold of the government's trust-busting section of the Department of Justice. He repeated the warning in an address at Charlottesville, Va. June 15th. He referred to the recent effort of the gasoline retailers to abolish their "under-the-canopy" discount of 2c a gallon. Arnold said quite bluntly that many of these stations, and he emphasized particularly those not tank car stations, could not survive the lower prices. But he said that made no difference as the consumer should get his gasoline at the lowest efficient cost. Arnold has also expressed regret that the Ethyl Gasoline decree did not reduce gasoline prices by eliminating the premium on quality brands.

Many a hard pressed "small business man" has appealed to the New Deal for "relief" and for higher price levels which would keep him in business on the ground that his competition is needed. Arnold is on record many times to the effect that such "relief" will not be given, no matter how sympathetic he may be to the "small business man" when he first calls.

It is safe to say that the aim of this administration is lower prices regardless of the consequences to competition. Hence it is to be hoped that those businesses who are suffering from a sudden backing up of their exports because of the war, will fully appreciate that it is much easier to get prices down these days than ever before, and that they will have to be raised against the opposition of the New Deal, no matter how low they may be.

OIL TRADE ASSOCIATION NEWS

Colorado Secretary Enters Upon Duties

Mace Warner

DENVER — Colorado Petroleum Marketers Assn. has been reorganized with Mace Warner as secretary and is preparing a program of activities, most important of which during the summer will be to promote tourist travel in Colorado.

"It is our aim as a group of petroleum jobbers," said Mr. Warner, "to further the trade and commercial interests of its members and those in any way related to the business of marketing petroleum products; to secure freedom from unjust or unlawful exactions; to establish and maintain uniformity and equity in the customs and commercial usages of the petroleum marketing industry; to acquire and disseminate valuable business information; to promote friendly relations among those engaged in the petroleum marketing industry —all of which not being inconsistent with the public interest."

Mr. Warner was formerly secretary of Southern Colorado Jobbers Assn., and is taking over the duties of Larry Rosenfield. Mr. Warner is a Denver resident and has had many years experience in the oil business, prior to entering association work.

National Asphalt Conference To Be Held At Dallas

N. P. N. News Bureau

NEW YORK, June 24.—After considering several cities, competing for the Thirteenth National Asphalt Conference, to be held during week of Nov. 25, Dallas was selected, states J. E. Pennybacker, managing director of the Asphalt Institute.

North Carolina Oil Men Plan Summer Meeting

RALEIGH, N. C., June 24. — Summer meeting of North Carolina Independent Oil Jobbers Assn. will be held July 12 to 15 at Wrightsville Beach, states E. B. Juliber, secretary.

The business meeting will be held July 12, followed by 2 days of social activities.

Weber Names Group For Work of O.P.M.A.

N. P. N. News Bureau

CLEVELAND, June 24—In order to furnish advice and information to the board of directors of Ohio Petroleum Marketers Assn., and to further association activities in their respective districts, Eric V. Weber, Cincinnati, president, has appointed 3 committees.

These committees are designated as advisory, legislative and operations, and were formed ofter study of the association's needs.

Supplanting the former committees on economics, marketing and transportation, is the committee on operations. Advisory committee will meet at call of President Weber. Committees on operations and legislation will meet monthly on second Thursday, regular meeting date for board of directors. Newly-appointed committees follow:

Advisory Committee

Central Ohio District—H. P. Legg, Columbus, Chairman; Leo M. Scheiderer, Marysvills; L. F. Blackstone, Lancaster.

Cincinnati District — E. L. Nunn, Cincinnati, Chairman; Ralph W. Sebald, Middletown; P. B. Mills, Sabina; Norman Irvin, Blanchester.

Eastern Ohio District—R. L. Carson, Cadiz, Chairman; D. B. Moore, Newcomerstown; John L. Marstrell, Stillwater.

Four Square District—Fred M. Perkins, Wooster, Chairman; R. K. Shoolroy, Wooster; E. R. Hart, Mansfield.

Lake Shore District—J. W. Bender, Sandusky, Chairman; George F. Broadwell, Oberlin; F. R. Smith, Fremont.

Mahoning Valley District—William G. Lyden, Youngstown, Chairman; W. J. Eaton, Columbiana; H. C. Williams, Warren.

Maumee Valley District—Ernest G. Vorwerk, Napoleon, Chairman; R. C. Miller, Bryan; Ross E. Miller, Maumee.

Miami Valley District—R. M. Reutlinger, Dayton, Chairman; J. B. Barnhart, Urbana; Howard Donley, Xenia; L. C. Ilgen, Versailles.

North Central Ohio District—Dewey H. May, Lima, Chairman; M. A. Franklin, Wapakoneta; E. L. McCrate, Columbus Grove; D. W. Mahaffery, Morral.

Scioto Valley District—C. P. McIlvaine, Chillicothe, Chairman; T. S. Davis, Oak Hill; J. W. Harsha, West Union.

Southeast Ohio District—Robert P. Moorhead, Cambridge, Chairman; J. L. Digar, Zanesville; R. W. Devitt, Stockport; C. Ford Barnhart, New Matamoras.

Tri-County District—Ray B. Marsh, Akron, Chairman; D. F. McIntosh, Canton; R. B. Coleman, Alliance.

Western Reserve District — Frank C. Wagner, Cleveland, Chairman; Myron Guren, Cleveland; Sterling L. Beck, Cleveland; K. H. Naumann, Painesville; C. F. Tuttle, Kingsville.

Committee On Operations

Sam Bohlen, Orrville, Chairman; J. R. McElroy, Fostoria, Vice Chairman; C. K. Aller, Bowling Green; R. L. Burke, Sidney; J. Roger Day, Edgerton; Paul Deer, Springfield; J. H. Eversman, New Knoxville; Mark E. Hazen, Medina; John J. Klay, Lima; R. E. LeRoy, Franklin; W. J. Loufman, Cleveland; W. S. Munson, Bristolville; Dennis G. Rice, Johnstown; John Stevens, Genoa; Frank L. Talley, Zanesville; H. E. Unrue, Ironton; E. V. Weber, Cincinnati, ex-officio.

Committee On Legislation

C. L. Hartenfels, Mansfield, Chairman; Robert M. Clark, Columbus, Vice Chairman; Charles A. Carroll, Xenia; G. L. Cline, Springfield; C. W. Ozias, London; S. B. Spalding, Bryan; E. V. Weber, Cincinnati, ex-officio.

O.B.I. Plans 2-Day Meeting July 8, 9

N. P. N. News Bureau

NEW YORK, June 24. — Among subjects to be considered by the Oil Burner Institute at its meeting July 8 at Griswold Hotel, Eastern Point, Conn., will be standards, legislation, trade practices, technical research and oil marketing, states C. F. Curtin, secretary.

On the following day, July 9, the institute's board of directors will hold a conference. Among problems to be discussed is how the present war and national defense program affects this industry, regarding man power, materials and production.

L. V. Cassady Heads California 'Natural'

N. P. N. News Bureau

LOS ANGELES—Officers and directors for 1940 were recently elected by California Natural Gasoline Assn.

These officers are: L. V. Cassaday, Lomita Gasoline Corp., president; W. C. Dayhuff, Standard Oil Co. of California, vice-president; and George L. Tyler, secretary-treasurer. Mr. Tyler modestly reports that his re-appointment is subject to confirmation of directors meeting in July.

A variety show topped off the day's entertainment.

Directors of the C.N.G.A. for 1940-41 are:

M. L. Arnold, Long Beach, Richfield Oil Corp.; A. H. Bell, Los Angeles, Continental Oil Co.; A. H. Bradford, Los Angeles, West Coast Refining Co.; J. C. Burks, Los Angeles, C. C. Field Gasoline Corp.; J. A. Campbell, Long Beach; L. V. Cassaday, Long Beach, Lomita Gasoline Corp.; C. E. Coleston, McKittrick, Belridge Oil Co.; F. J. Colton, Los Nietos, Tidewater Associated Oil Co.; F. E. Coyle, Wilmington, Tidewater Associated Oil Co.; F. E. Davie, Ventura, Shell Oil Co., Inc.; Earle Derby, San Francisco, Standard Oil Co. of California; B. L. Eggleston, Los Angeles, Gilmore Oil Co.; O. C. Field, Los Angeles, O. C. Field Gasoline Corp.; and Harry Fiske, Los Angeles, Ingersoll-Rand Co.

J. S. Fluor, Jr., Los Angeles, Fluor Corp.; M. L. Fort, Los Angeles, Industrial Fuel Supply Co.; C. D. Card, Santa Fe Springs, Union Oil Co. of California; R. D. Gibbs, Los Angeles, Union Oil Co. of California; J. C. Gilbert, Los Angeles, Barnsdall Oil Co.; R. H. Green, Los Angeles, Signal Oil and Gas Co.; R. W. Heath, Long Beach, Signal Oil and Gas Co.; W. A. Kirk, Torrance, California Southern Oil Co.; W. H. Kraft, Taft, Honolulu Oil Corp., Ltd.; H. R. Linhoff, Los Angeles, Richfield Oil Corp.; F. A. E. Lowell, Venice, Del Rey Oil & Gas Co.; A. C. Lyles, Avenal, Kettleman North Dome Assn.; and R. S. Lytle, Los Angeles, Los Nietos Production & Refining Co.

S. F. Mager, Los Angeles, Superior Oil Co.; P. S. Magruder, Los Angeles, General Petroleum Corp.; G. C. McLaren, Whittier, Standard Oil Co. of California; William Moeller, Jr., Los Angeles, Southern California Gas Co.; H. E. Moulton, Los Angeles, Chanselor Canfield Midway Oil Co.; N. H. Mull, Los Angeles, The Texas Co.; H. M. Paulsen, Los Angeles, The Bankline-Norwalk Co.; W. W. Robinson, Jr., Long Beach, The Texas Co.; John Rogers, Los Angeles, The Cooper - Bessemer Corp.; W. D. Smith, Los Angeles, Wilshire Oil Co.; T. L. Taggart, Los Angeles, Standard Oil Co. of California; R. S. Tulin, Los Angeles, Shell Oil Co., Inc.; and R. C. Wheeler, Los Angeles, General Petroleum Corp.

California 'Natural' Men Frolic on the Green

N. P. N. News Bureau

LOS ANGELES, June 24. — Blitzkriegs, Maginot lines, bombs, bombers, and bombed—even natural gasoline—joined the legion of memories when California Natural Gasoline Assn. held its annual June frolic this month at Riviera Country Club.

And when California oil men gather at a country club, particularly if there is a golf course, business is relegated to the point where even the name of Harold Ickes evokes such a comment as "Huh?, Oh Iches, who is he?—a caddy?"

"Let's play ball" was the order of the day.

At this year's frolic, members engaged in golf, baseball, volleyball and badminton. Horseshoes, with the real back-of-the-barn zest, was provided for those in a less strenuous, but not less playful, mood.

Earle Gard, Winner

At the day's end, golf cards of 122 participants showed Earle Gard, Union Oil Co. of California, as prize winner of both low net and low gross scores. The blind bogey finished with 7 players tied for the money which was divided equally among them.

After a baseball game between "independent" and "major" oil men, the score board showed a "blitzkrieg" for the "majors", with the "independents" talking about next year's come-back. Meanwhile, a Swiss band was busy pouring out some lively music.

By late afternoon, all the games had been talked over in the locker room, with losers virtually becoming winners, and everyone waiting for dinner.

After dinner, which had been prepared for oil men's appetites, P. S. Magruder, General Petroleum Corp., retiring president, thanked members of various committees for their work during his term of office, and announced officers for the year commencing July 1, 1940.

Just as he was ready to hop over this chain, golf ball in hand, George Tyler, C.N.G.A. secretary-treasurer, was stopped and "shot"

Starting from Harry Fiske, seated at extreme left, the others are: J. C. Rector, E. G. Ragatz, J. S. Fluor, Earle Gard and H. L. Hoover

Gentlemen of the sod, at bottom, from left to right, are: M. C. Alcorn, H. R. Linhoff, F. J. Colton, W. Stewart Johnson, P. S. Magruder, L. V. Cassaday, T. L. Taggart and J. C. Burks

Arnold Cites Dealers' Case As Anti-Trust Achievement

N. P. N. News Bureau

WASHINGTON, June 22.—Action against a group of local gasoline dealers for their "stabilization" plan was held up as a "concrete example" of how the anti-trust laws work to protect the consumer by Assistant Attorney General Arnold, chief of the anti-trust division, in a speech June 15 at Charlottesville, Va.

Mr. Arnold contended that "all the filling stations got together and decided to end competition (which they referred to as a 'price war'), and to fix prices at a point high enough for everyone to survive."

Dealers' version was that the only mention of price at their meeting was a request that they take down signs offering "2c off" posted prices. Main idea of their "stabilization" plan was to "sell" the public on the detrimental effect of price wars on the community and so to discourage buying at cut-price stations, it was said.

Theme of Mr. Arnold's address, which was delivered at University of Virginia's Institute of Public Affairs, was that in the war emergency, the taxpayer must be protected against "paying unnecessary tribute to small groups in control of war boom industries."

Coming down to how the anti-trust laws can prevent this Mr. Arnold's first example was the Washington gasoline dealers' case. The anti-trust chief said:

Cites Dealers' Plight

"Events of today are forcing us to be practical. We must think in terms of specific prices of specific articles. You can't do anything about prices of everything at once except to make a speech. What we want to do is to get milk around, to get drugs around, to get gasoline and other types of fuel distributed in such a way that the increased dollar wages which will come from war preparation will not mean decreased real wages and unbalance of prices. Let me give you a concrete example of how this thing works.

"As this is being written there are a lot of filling stations in Washington which are not doing well financially. Many of them cannot survive real competitive forces. Some of them have an advantage over the others because their storage facilities enable them to buy at tank car prices. They can, therefore, sell at prices which would drive the small stations to the wall.

"The other day all the filling stations got together and decided to end competition (which they referred to as a 'price war'), and to fix prices at a point high enough for everyone to survive. The larger stations were willing because the fixed price gave them a still greater profit. The timing appeared to be about right—just when war expansion seemed imminent.

'Give 'em Subsidy Instead'

"Assume that the indigent filling stations represented about one-third of the total. Assume that we desired to give these stations some relief. By following the price fixing method, relief to the indigent filling stations costs three times as much as a direct subsidy. For every dollar of profit given to the impecunious one-third, we have to give two dollars of profit to those who do not need it. The cost of this price fixing to consumers in Washington was approximately $2,000,000 a year. Thus the consumers were expected to pay $2,000,000 in order to give needy individuals $666,000.

"This extra $1,333,000 has to be supplied by the government out of taxpayers' money. Washington is a city almost solely dependent on the government payroll. The government must pay wages high enough to get its workers to and fro to the office. This takes gasoline. The cost of this gasoline, however, is multiplied still further. Every merchant who delivers food finds his cost increased.

Calls Price Rise a 'Tax'

"In addition this price rise in gasoline in Washington is not only a tax on the government and the people in Washington. It is also a tax on the farmer, the banker and the merchant in Virginia and every other agricultural state. The tax on the farmer works in this way: A government employee who gets $1800 a year is not able to set a very fancy table. He spends his entire income on necessities. If he has to pay $50 more for gasoline he must go without an occasional steak or a new dress for his wife, and the farmer or the textile manufacturer loses. Thus the unbalance of prices caused when this small restraint is thrown in the pool of purchasing power spreads out in ripples in every direction. The accumulative effect of these restraints of trade is enormous.

"The farmer used to get 50 cents out of every consumer's dollar. Today he only gets 30 cents. Tomorrow, if we allow things like this to go on, he will only get 20 cents. In cartelized Germany, prior to Hitler, food was scarce yet farmers were in distress. They could not exchange that food for the plentiful manufactured goods because the prices were fixed. There were millions who could not be employed in a country that needed work to be done, because of that system.

Called Before Grand Jury

"Actually it took only one man three days time to call witnesses before a grand jury to stop fixing the gasoline prices in Washington. The prevention of such restraints is a very simple problem of policing. It cannot, however, be solved by speeches or by panacea legislation. We can only do it by the tiresome process of taking up one thing at a time."

Treble Damage Suit Seeks To Represent All Midwest Jobbers

N. P. N. News Bureau

CHICAGO, June 24.—Suit attempting to set up a "representative proceeding" to collect treble damages under Sherman Act on behalf of 4000 jobbers operating between 1933 and 1938 in 9 Midwestern states is now pending in Federal District Court at Minneapolis.

Specific plaintiff is Cook Brothers Oil Co., Menominee, Minn., and Court is asked to enjoin other jobbers in Michigan, North and South Dakota, Wisconsin, Minnesota, Indiana, Illinois, Missouri and Kansas from filing similar suits. Earnest A. Michel, Minneapolis, and associates are plaintiff's attorneys. Court has not yet acted on request for injunction. Defendants named in complaint were Pure Oil, Indiana Standard, Sinclair, Shell, Socony Vacuum, Phillips, Skelly, Continental and Cities Service.

Meanwhile, in a similar suit filed in Chicago by Louis Weeks, Weeks-Marland Oil Co., Millington, Ill., and Starling Fuel Oil Corp., Chicago, a temporary injunction was granted June 19 by Federal District Judge Sullivan restraining 900 Illinois jobbers from filing treble damage suits. Suit attempts to set up "representative proceeding" for all jobbers operating in Illinois between 1933 and 1937.

Melvin Elected Head Penn Grade Group

BRADFORD, Pa., June 22.—Officers for the coming year for Pennsylvania Grade Crude Oil Assn. were elected at meeting here June 20, 21. P. L. Melvin, Bradford, Towne-Melvin Oil Co., producers, was elected president; A. E. Booth, Bradford producer, first vice-president; Otto Walchli, Wellsville, Richardson Petroleum Corp., second vice-president; John A. Beck, Butler, Pennsylvania Refining Co., recording secretary; Samuel Messer, Oil City, Quaker State Oil Refining Corp., treasurer; Walter Reitz, Oil City, Quaker State Oil and Refining Co., assistant treasurer; J. E. Moorhead, Oil City, executive secretary; and S. F. Pratt, Oil City, assistant secretary.

Directors Listed

Members of the board of directors are: D. T. Andrus, Bradford producer; John A. Beck, Butler, Pennsylvania Refining Co.; Mr. Booth; E. C. Breene, Oil City producer; W. J. Brundred, Oil City producer; H. M. Carruth, Cleveland, Canfield Oil Co.; W. F. Clinger, Tidioute, Clinger Oil & Gas Co., producers; E. M. Craig, Freedom, Freedom Oil Works; E. R. Daugherty, Butler producer; A. D. David, Clarendon, Bradford Penn Refining Corp.; W. K. Harrington, Marietta, O., Henderson Oil Co., producer; W. J. Healy, Bradford producer; D. E. Hoffman, New York, Tidewater Associated Oil Co.; Otto Kock, Bradford, Kendall Refining Co.

Other directors are: H. R. Lewis, Warren, Conewango Refining Co.; H. A. Logan, Warren, United Refining Co.; D. B. McCalmont, Franklin producer; John McCoy, Columbus, O., producer; Mr. Melvin; Mr. Messer; F. E. Richart, Wellsville producer; D. T. Ring, Columbus, O., Preston Oil Co., producer; Noel Robinson, Pittsburgh, South Penn Oil Co.; R. G. Sonneborn, New York, L. Sonneborn Sons, Inc.; C. E. Streeter, Bradford producer; C. L. Suhr, Oil City, Pennzoil Co.; T. P. Thompson, Jr., Bradford producer; S. M. Vockel, Pittsburgh, Waverly Oil Works; Mr. Walchli.

California Output Down 5000 Barrels

N. P. N. News Bureau

LOS ANGELES, June 21.—California state crude production quota for July has been set at 587,000 bbls. daily by the Central Committee of California producers. This is a reduction of 5000 bbls. daily from the June quota.

Oil Transportation News

Latest developments in freight rates, legislation, regulations, and new construction affecting transportation of petroleum products by truck, barge, tanker, pipeline, and railroad.

Tanker Program To Aid Defense Nears Its Goal

N. P. N. News Bureau

WASHINGTON, June 24.—Completion of Maritime Commission's tanker construction program was assured this week with award of contracts for construction of three high-speed national defense tankers for affiliates of the Keystone Tankship Corp. by Sun Shipbuilding and Drydock Co., Chester, Pa. Two of the vessels will be built for Seamar Tankers, Inc., and one for Kaymar Tankers, Inc., with Commission paying cost of national defense features incorporated in structure of the vessels.

Besides securing construction of 23 tankers with sufficient speed to accompany the fleet, Maritime Commission pointed out, its program has resulted in bringing commercial tanker standards up to a level approaching Navy requirements on many of the tankers under construction for various oil companies.

Before the program was begun in 1938, commercial tankers had an average speed of about 12 knots, whereas many major oil companies have now raised tanker speeds on their new vessels from 15 to 16 knots. "This increase has resulted from the successful operations of the Commission-sponsored national defense tankers which have shown that oil can be efficiently and economically carried at sea at higher speeds," Commission pointed out.

Oil Companies Help

Read Admiral Emory S. Land, U.S.N., retired, chairman, said: "The major oil companies of the country have given the United States Maritime Commission excellent co-operation in meeting the national defense needs of the country with respect to naval auxiliary refueling ships."

The tanker program was started in 1938 when the Standard Oil Co. of New Jersey ordered 12 twin-screw national defense tankers with the Commission paying cost of national defense features. The vessels are 553′ overall, 75′ wide and have a capacity of 145,000 bbls. They are capable of operating at better than 18 knots.

This portion of the program, sponsored by the late Robert Hague, vice-president in charge of the Marine Department of the company, is almost complete. Eleven of the vessels have now been launched and nine are in operation.

Three of them have been purchased by the Navy and are now the U.S.S. CIMARRON, U.S.S. PLATTE and U.S.S. NEOSHO. Two more were purchased by the Keystone Tankship Corp. which is also building 2 ships similar to those ordered by Seamar and Kaymar Tankers, Inc.

Prices, Costs Reduced

Six more single screw national defense tankers are underway for the Socony-Vacuum Oil Company, Inc. They will be 501′ 7½″ overall, 68′ wide, will have a speed of 16½ knots, and a capacity of approximately 129,000 bbls.

During the execution of the tanker program, prices and costs to the Government were steadily reduced. On the first group of 12 twin screw tankers, the price was $3,129,667 per ship with the Commission paying $880,000 per ship for national defense costs, primarily the additional speed. On the next 6 vessels of the single screw type, the price was $2,687,000 each with the Commission paying $450,000 per ship for national defense features. On the last five, also single screw, the price will be approximately $2,620,000 with the Commission paying $308,000 per ship. This reduction is partly due to the lower cost of single screw propulsion as well as the smaller size of the vessels.

In addition to these 23 vessels, the Texas Co. voluntarily agreed to increase the shaft horsepower on 4 tankers which it is now building, to 9,000 s.h.p. and thus provide a speed of approximately 16 knots without expenditure of Commission funds. In general, the program has resulted in increasing shaft horsepower on large American tankers from 4,000 to about 7,500.

Oil Trucking Up

WASHINGTON, June 22.—Petroleum products transported by truck in May registered an increase of 7.8% over April tonnage, and was 12.4% above May, 1939 loadings, American Trucking Assn's. reported today on basis of comparable reports from 194 motor carriers in 37 states. Oil and its products accounted for slightly more than 10% of total tonnage reported.

Total revenue freight hauled by these petroleum transporters aggregated 1,110,853 tons in May, against 1,055,326 tons in April and 991,486 tons in May, 1939.

ICC Approval Seen On Trainload Plan

N. P. N. News Bureau

WASHINGTON, June 25.—Outlook for possible Interstate Commerce Commission approval of trainload rates on petroleum products was heightened today by commission action approving proposal of St. Louis-San Francisco Railway to put into effect June 24, volume rates on coal at $2 per ton from mines in Arkansas and Oklahoma to St. Louis.

Commission's action was all the more significant in view of fact action taken was over protests filled by 22 eastern trunk line railroads which urged suspension pending investigation of the rates.

While not constituting an absolute assurance, ICC action raises chances of commission sanctioning publication of pipeline-competitive trainload rates on gasoline from Southwestern refining points to Midwestern markets as under discussion recently by Rock Island and other western railroads.

Truck Safety Study To Be Made By ICC

N. P. N. News Bureau

WASHINGTON, June 24.—Interstate Commerce Commission will hold hearings to determine what employes of motor carriers, if any, other than drivers, perform services which effect the safety of operation of for-hire and private motor vehicles in interstate and foreign commerce at Sherman Hotel, Chicago, Ill., beginning July 23.

Rail Shippers Ask 30-Day Suspension

OKLAHOMA CITY, June 24—Petroleum Rail Shippers Assn. has asked for another 30-day suspension, from July 1 to Aug. 1, of "truck-competitive" rail rates from northern and midwestern pipeline and marine terminals inland to destinations.

Initial suspension request was made by P.R.S.A. members so that rail-initiated trainload rates from the Southwest to terminal points could be published simultaneously with the rates from terminal points on to destination. It had been pointed out at that time, reductions from terminals inland would further "aggravate transportation inequalities" suffered by rail shippers unless the "pipeline-competitive" trainload rates were also put into effect.

No announcement has been made regarding status of the trainload proposal. Extended suspension was reason for this request, it was believed.

ICC Calendar

DECISIONS

A. J. Gorey Motor Transportation, Manchester, N. H. (MC 22139, Sub. 6) Certificate granted (upon compliance with certain conditions) to operate as a common carrier of liquid petroleum products in bulk from Malden, Mass., to Manchester, Laconia (including Lakeport), Franklin, and Belmont, N. H., over regular routes.

E. L. Semke, Enid, Okla. (MC 10746, Sub. 3) Permit granted (upon compliance with certain conditions) to operate as a contract carrier of petroleum products from Augusta, Kans., to Monte Vista and Center, Colo., over specified routes.

HEARINGS

Turner Transfer, Floydada, Tex. (MC 66836, Sub. 2) July 11, Amarillo, on application to extend operations as a contract carrier of petroleum and products in Okla. and Tex. over irregular routes.

Wolfe Oil Co., Blackwell, Okla. (MC 101485) July 16, Oklahoma City, on contract carrier application to transport refined petroleum products in Okla. over irregular routes.

C. A. McBurney Tank Line, Enid, Okla. (MC 1710, Sub. 1) July 16, Oklahoma City, on application to extend operations as a common carrier of petroleum products in Kans. and Okla. over irregular routes.

R. L. Smith, Portland, Ore. (MC 100348, Sub. 3) July 17, Portland, on application to extend operations as a common carrier of petroleum and products in Ore. and Idaho over irregular routes.

Pennsylvania Lubes Seek Wider Market in U.S.

War's Effect on Exports Discussed At Penn Grade Association Meeting

By N.P.N. Staff Writer

BRADFORD, Pa., June 21.—Primary need of the Pennsylvania industry in 1940, to overcome the effects of the Hitler campaigns which have wiped out much of our European exports, is an expansion of the domestic market for Pennsylvania oil, it was pointed out to a near-record attendance of over 200 members and guests of the Pennsylvania Grade Crude Oil Assn. by J. E. Moorhead, executive secretary, at the opening session of its seventeenth annual meeting here.

"Proposed defense measures may provide additional outlets later on, but at present, greater selling and advertising effort is immediately necessary," said Mr. Moorhead. Volume of the advertised national brands was described as satisfactory.

Mr. Moorhead's talk dealt largely with the activities of the association since its formation, the problems it has solved, the field service program, and policing of the lubricating oil market to eliminate fraudulent claims for oils not of Pennsylvania origin.

Jobbers More Important

He also discussed the jobber situation and showed charts indicating that the oil jobber is becoming more important in the picture. This chart showed that the number of jobbers is back to 1934 level after reaching a low point in 1938. A big factor in the marketing of Pennsylvania oils at present is the growth of the farm co-operatives. While the number of jobbers now handling Pennsylvania oils has come back considerably, the dollar volume has not yet recovered, he added.

Field Service Described

In describing the field service of the association, one of the field men was asked to outline the course of action taken when a fraudulent oil was uncovered. An assortment of oil cans was displayed over which court cases had been won ranging in claims from the hedging "Pennsylvania Specs" to the bold statement of Pennsylvania origin. It was pointed out that no case had yet been lost in court.

One of the most important and biggest cases yet handled by the association is now awaiting decision in federal district court at Detroit. This case took a long time to bring to trial and 11 days were required to present the case last winter. The argument was largely one of geography against specifications, according to J. C. Keller, Washington, who outlined the case.

Mr. Moorhead pointed out that while a large number of cases had been handled by the association, they did not represent a correspondingly large volume of oil, since in most cases the sale of misbranded oils was stopped before the loss became great. He added that little time is required to determine the contents of oil samples at the Pennsylvania State College laboratory and much less than 1% of the oil now sold as Pennsylvania oil is adulterated. This record was made with only the association policing the market.

A financial report of the association was presented showing that the cost of maintaining the association was equivalent to about 1c per bbl. of Pennsylvania oil produced during the year or that 2 days production paid all expenses. Of the total expenditures, 60% went to publicity and advertising and 12% to research.

Lube Analysis Project

Second speaker at the opening session was Dr. M. R. Fenske, doing research work on lubricating oils at Pennsylvania State College, who described some of the work being done on analysis of lubricating oils.

By the use of 3-dimensional charts shown in perspective, Dr. Fenske showed the extent of their knowledge of the viscosity and viscosity index characteristics of lubricating oils in 1930, 1935, and 1940. Viscosity index is a measure of the change in viscosity with changes in temperature of an oil, the better oils being those which change least with temperature.

These charts showed more clearly than words how distillation and solvent extraction separate the oil into fractions differing in viscosity and viscosity index respectively. By a combination of the 2 methods of separation it has been possible to determine the per cents of oil constituents of every combination of viscosity and viscosity index. Results of these determinations show a high concentration of constituents of over 100 V.I. in the neutral oils. Blending and compounding, it was believed, will become increasingly important in lubricating oil manufacture with closer selection of constituents.

Natural Inhibitors Sought

Studies are also being made at Penn State to determine the presence of natural inhibitors for corrosion, oxidation, and acidity, and means for retaining them in highly extracted oils. Dr. Fenske said if these natural inhibitors can be isolated in the lubricating oil fractions and extracted, their cost would be far less than the chemical additives now being used.

A number of studies have been made at State College on the effects of additives on the various properties of lubricating oil. These showed one problem alleviated at the expense of another. Dr. Fenske said caution should be used in adding a variety of additives without knowing what may happen in as complicated a mixture of hydrocarbons as oil.

Reassurance was given of the worth of Pennsylvania oil as a lubricant, and it was pointed out that the Pennsylvania refiner is particularly fortunate in having to deal with only one crude which, once analyzed and its properties determined, would be done once for all. He said the Pennsylvania refiner is well protected as far as oil quality is concerned because if necessary it is possible to keep the viscosity index going up as well as other properties. The Pennsylvania refiner, he said, is going to have all the knowledge he can use or need to keep going ahead with the production of a quality product.

Dr. S. T. Yuster, also of Pennsylvania State College, was the third speaker. He discussed "Progress in Lifting More Crude for Less" which dealt, of course, with crude production problems. His talk had to do largely with studies of porosity and permeability of oil sands in relation to water flooding and gas and air repressuring. Corrective shooting and corrosion were other phases of production which were discussed.

Infrequent Change of Oil Hurts Motor, Rugg Reports

The feature of the June 21 morning session was a quiz or "Stump the Experts" program with Fayette B. Dow, Washington, general counsel for the Pennsylvania Grade association, presiding. Questions from the floor were directed to Experts Dow, Moorhead, Harry M. Rugg, Fenske, and Yuster. The quiz session was primed by a list of 19 questions put in the hands of the audience. The questions were as varied as the list of experts indicates.

One of the questions was how can Pennsylvania oils with additives be called 100% pure Pennsylvania? This question was answered by reference to rulings of the Federal Trade Commission on wool and silk, for example, for which certain improvements are made during manufacture.

A question on trends in crankcase draining periods brought out an interesting discussion by Mr. Rugg, automotive engineer for the association, who discussed his own experience in using an oil for 18,000 miles without a change except in the filter cartridge at 6000-mile intervals. He said the viscosity of his oil changed from S.A.E. 20 to 30 during this period of service, the neutralization number was 23 times as high as at the start of the test, and piston pin bushing corrosion was serious. Valve sticking was getting serious at 16,000 miles.

1000-Mile Changes

Automotive engineers are admitting certain troubles accompanying too infrequent oil changes and one manufacturer has gone back to a recommendation of 1000-mile oil changes, it was said. Reference was made to a published article in which it was shown by questionnaire that fleet operators are averaging 1235 miles between changes of oil when operating without a filter, and 4260 miles when using filters. Twelve operators who made no oil changes and

used filters, all had mechanical difficulties.

Mr. Rugg said that some efforts to increase mileage between oil changes came from the sales division of automobile companies against the advice of the engineering staff who recognized more fully that adequate or safe lubrication is cheaper than difficulties that may be encountered with too few changes. Asked whether he used leaded fuel in his 18,000-mile test, Rugg said that he did but that the lead deposits caused little difficulty as compared with those from the lubricating oil.

There was interest shown in how the industry is going to be represented in Washington under the national defense program so that "we won't be discriminated against." Mr. Dow answered this question by outlining the present set-up in Washington in which no thought is given to lubrication but all thought,—as far as the petroleum industry is concerned—is being concentrated on aviation fuel. The Pennsylvania industry is to be represented later, he added. He said 80 to 90% of aviation mileage is now lubricated by Pennsylvania oils.

Melvin New President

P. L. Melvin, Towne-Melvin Oil Co., Bradford, was elected president of the Pennsylvania Grade Crude Oil Assn. for the coming year, succeeding W. F. Clinger, Tidioute producer. A. E. Booth, Bradford producer, is first vice-president, and Otto Walchli, Richardson Petroleum Corp., Wellsville, second vice president. John A. Beck, Pennsylvania Refining Co., Butler, is recording secretary. J. E. Moorhead, Oil City, was re-elected executive secretary along with S. F. Pratt, assistant secretary.

Several resolutions were adopted at the final luncheon session at Penn Hills Country Club. The first was an expression of appreciation and thanks to the research staffs at Pennsylvania State College for efforts directed toward solution of various problems affecting the Pennsylvania oil industry. All individuals affected were named in the resolution. This resolution also included the Technical Advisory committee headed by P. M. Robinson, The Pennzoil Co., and the Production Advisory committee headed by R. B. Bossler.

Another resolution was made in memory of John P. Flynn who died March 22.

In view of material reduction in membership of the producer class in the association, a resolution was adopted that an active effort be made to increase the membership of this class in each of the several districts.

U.S. Lube Exports To Europe Cut 50%

N. P. N. News Bureau

WASHINGTON, June 24.—War developments of recent weeks have cut off more than half of the European market for American lubricating oils, according to figures compiled by U. S. Bureau of Foreign and Domestic Commerce.

This data by the Commerce Department bureau also shows that lube oil exports to principal European countries during first 8 months of the war (September, 1939 through April, 1940) had increased approximately 40% over similar 8-month period of 1938-39. And this increase was registered despite shipments to Germany falling from 859,460 bbls. to 3 bbls. (how that three barrels got to Germany by the British blockade, if it did, was unexplained).

The figures show tremendously-increased imports during the war period by the Scandinavian countries, Spain, the Netherlands and Switzerland.

Switzerland, bordering on Germany, jumped its lube imports of U. S. lubes from 4,082 bbls. to 65,155 bbls. Belgium, however, showed an increase of less than 2000 bbls. on its total imports of 480,058 bbls.

Italy Doubles, Spain Quadruples

Italy's lube imports more than doubled, from 219,151 bbls. to 533,677 bbls. And Mussolini may have obtained some of Spain's four-fold increase in imports.

Nevertheless, the Allies took more than half of the U. S. lube oils shipped to principal European countries during the 8-month war period.

United Kingdom (British Isles) imported 2,297,356 bbls. of American lube oils from last September through April, 1940, as compared with 1,554,205 bbls. during the same 8 months of 1938-39 before the war. During same period, French lube imports from U. S. increased from 307,459 bbls. to 402,442 bbls.

Show Extent of Market Lost

The Commerce Department figures also show extent of the lube oil market lost to American refiners by Hitler's series of *blitzkriegs*, plus Italy's entry into the war which closed the Mediterranean.

Of the 13 principal European countries for which U. S. export data is given below, only the United Kingdom can be regarded as still open to American shippers.

Hitler has conquered or seized Belgium, Denmark, France, the Netherlands, and Norway. U. S. Maritime Commission has cancelled all American-flag tanker charters to Spain and Portugal and the British navy probably won't allow its own (including Norwegian-flag) or neutral tankers to haul to these countries, now that Italy has entered the war to guard against transshipment.

Sweden has no outlet to the sea except through waters controlled by Germany (with the British navy watching outside). That leaves Greece, and she is on the Mediterranean, shut off at Gibraltar. Of course, the British navy will see to it that no shipments go direct to German or Italian ports.

These figures, of course, do not include any of the Balkan countries nor other smaller European countries which, in the aggregate, amounted to a sizable amount. Shipments to these are also now cut off.

Tht leaves only the United Kingdom, which took 2,297.356 bbls. of American lube oils from September to April (an average of 287,000 bbls. a month) which is less than half of the amount exported to other countries now cut off.

U. S. Lube Exports

Following data by U. S. Bureau of Foreign and Domestic Commerce shows increase in European takings of American lube oils since war started last September as well as indicating extent of market lost by German's conquest and Italy's entry into war:

Country	Sept. 1938 through April 1939 (Barrels)	Sept. 1939 through April 1940
Belgium	478,615	480,058
Denmark	164,700	311,718
France	307,459	402,442
Germany	859,460	3
Greece	24,804	31,241
Italy	219,151	533,677
Netherlands	70,267	205,671
Norway	20,352	110,356
Portugal	32,895	87,874
Spain	99,544	395,860
Sweden	105,916	213,453
Switzerland	4,082	65,155
United Kingdom	1554,205	2,297,356
Total to Principal European Countries	3,991,385	5,277,826

Nazis Must Win Before Oil Runs Low Or Drop Offensive Soon, Says Expert

N. P. N. News Bureau

NEW YORK, June 24.—If Great Britain "digs in" and for three months holds off Germany virtually single-handed, in view of France's recent surrender to Nazis power, Hitler's blitzkrieg days will be over—due to lack of oil.

This is the latest conclusion of Max W. Ball, internationally-known oil expert and author of one of the nation's best selling books: "This Fascinating Oil Business".

Mr. Ball said this week: "Since the war chapter in 'This Fascinating Oil Business' was written at the end of November, the German-Rumanian trade treaty has been made, the oil provisions of the Russo-German trade agreement have become known, Russia's war on Finland has been fought and ended, Germany's navy and merchant marine have been almost completely driven from the seas, Germany has conquered southern Norway, all of Denmark, Holland, and Belgium, and part of northern France, and a heavy attack on the new Allied positions from Abbeville to Longwy has just been launched. To what extent do these developments change the conclusions reached in the chapter, and to what present conclusions do they lead?

Rumanian Delivery Fails

"The German-Rumanian trade treaty promised Germany 11,200,000 bbls. a year of Rumanian oil, instead of the 18,000,000 bbls. I estimated. Not even the reduced amount has been delivered, however. Transportation facilities have proved even less adequate than I anticipated, and actual deliveries have been at a rate of less than 9,000,000 bbls. a year.

"'Business Week' for June 1 gives the first dependable report of the terms of the Russo-German trade agreement of last August, which runs for a year. Under it, Russia agreed to furnish Germany 7,000,000 bbls. of oil. How much has actually been or will be delivered no one outside Germany and Russia can say, but if tank cars have not been available to move the

full Rumanian quota to Germany, it is unlikely that the full quota has been moved from the more-distant Russian fields.

"The small amount of oil that Russia agreed to supply is further confirmation of the fact that Russia has no oil to spare without impairing her own internal economy and military preparedness. Still further confirmation is contained in 'Business Week's' report that Germany has given Russia the right to use the Fischer process for hydrogenating coal and has dismantled and is sending to Russia a hydrogenation plant she was building in Cologne. If Russian oil supplies were adequate, what would Stalin want of a coal-hydrogenation process and plant?

No New Supply Sources

"Germany's conquests in Scandinavia, the Low Countries, and France have given her no new sources of supply, and nothing has happened to change last fall's conclusion that production of oil and equivalent fuels within her enlarged borders will not exceed 2,000,000 bbls. a month, including synthetic production as well as production from wells. Adding 750,000 bbls. a month from Rumania and a problematical 500,000 bbls. a month from Russia gives a total German supply of 3,250,000 bbls. a month.

"On the other side of the ledger, Germany probably used less oil during the 'sitzkrieg' stage than had been estimated. Both fighting and troop movements were on a limited scale, and the bottling up of nearly all of her navy and merchant fleet must considerably have decreased her use of marine fuel. It may be that her consumption during this period was as low as 6,000,000 bbls. a month, instead of the 7,500,000 that I estimated in November. With Rumanian deliveries running less than 500,000 bbls. a month during much of the period and Russian delivery facilities extremely uncertain, Germany's supply could scarcely have averaged 3,000,000 bbls. a month. The 2,000,000 bbls. she captured in Denmark and the smaller amount captured in Norway would no more than cover, if they did cover, the extra consumption of the Scandinavian invasion. She must therefore have drawn on her storage by at least 3,000,000 bbls. a month for the 8 months preceding the invasion of Holland.

"If at the start of the war she had 40,000,000 bbls. in storage (and 40,000,000 bbls. remains the highest estimate of any responsible authority), then her storage when Holland was invaded must have been reduced to about 16,000,000 bbls. By her own claims she captured something under 1,000,000 bbls. in the Low Countries, which would give her some 17,000,000 bbls. How long will this last her at the present rate of consumption?

Estimates Too High

"Estimates of Germany's requirements for a war of the present intensity run from 12,000,000 to 20,000,000 bbls. a month. I am inclined to think they are too high. The forces employed are large and highly mechanized, and the number of tanks, trucks, airplanes, motorcycles, armored cars, motorized gun units, and other motor equipment in use is staggering. A competent authority has estimated that German airplanes alone are using 1,600,000 bbls. a month on this front. The theatre of the action is comparatively small, however, the area behind the lines has adequate rail facilities, and the motorized supply lines are consequently comparatively short. I should not be surprised, therefore, if Germany were getting by with consumption of 9,000,000 to 10,000,000 bbls. a month, though further German advances would enlarge the area of action, extend the supply lines, and increase the consumption.

"Against this consumption Germany has a supply of not more than 3,250,000 bbls. a month, which means a shortage of at least 6,000,000 bbls. a month, against a storage of some 17,000,000 bbls. It is obvious, therefore, that Hitler must win decisively within a matter of three months or thereabouts—so decisively as to break the blockade and gain access to ocean-borne oil—if he is not to fail for want of adequate oil supplies.

Possible Oil Leaks

"There remains one factor of uncertainty which might somewhat affect this conclusion. The charge has been made in the United States that considerable quantities of oil were leaking into Germany through neutral countries, specifically through Scandinavia, Holland, Belgium, and Italy. The Allies have not admitted that such leakage was taking place, and they are not likely to have permitted neutrals to import such quantities that large amounts could be passed on to Germany. In any case the German conquests have plugged all such leaks except possibly through Italy, and it is scarcely conceivable that the Allies will allow Italy to be a conduit for important oil supplies to Germany. It may be, however, that a few million barrels have filtered through into German storage. If so, Hitler's striking power may be extended for another month or so.

"The conclusion that Hitler must win decisively this summer or early fall does not mean that if he does not he must quit fighting or surrender. A determined people can continue to fight desperately although at a heavy disadvantage, as the Allies have recently shown. Hitler could still dig in and put up a stubborn defense, possibly an extended one. It is clear, however, that if he continues his present scale of oil expenditure and fails to bring the Allies to their knees or at least end their blockade within a few months the offensive will pass from his hands and his blitzkrieg days will be over."

Texas Production 'Holidays' To Curtail State's Output

AUSTIN, June 24. — Sizeable reductions in Texas' allowable production were ordered by Texas Railroad Commission late last week following an emergency hearing called to draft plans to bring crude output into line with reduced export demand.

Curtailed production the remainder of June will be brought about by a state-wide shutdown of Texas wells, June 23 and 30, and reductions in allowable output in Gulf coastal fields.

Production under the new order will be brought down almost 246,000 bbls. daily, to approximately 1,115,000 bbls. for the remainder of June, it was believed.

10 Production Holidays

At the same time the commission issued a special emergency order for the East Texas field, placing production on the old potential basis. It was ordered that from June 22 to July 7 the per-well allowable in East Texas should be based on 2.32% of the well's hourly potential output.

Statewide shutdown of all Texas wells will be carried over into July and August, the order calling for 5 production holidays each month. Each Sunday in these two months and July 4 and August 1 were designated as shutdown days. Increases in Panhandle allowable production were also ordered.

At the outset of the emergency hearings here, earlier this week, 2 of the commissioners had indicated they favored an extended shutdown of Texas oil fields to bring crude production in line with demand.

'Weak Spots' Surveyed

But as the hearings progressed and more testimony piled up against extended shutdowns, commission surveyed each Texas field to find out the "weak spots". Gulf coastal fields were hardest hit by the loss of market, it was revealed, and bore the brunt of reduced allowables ordered by the commission.

Texas stands to lose 127,000 bbls. daily of its markets during the June-September period, bringing demand down to 1,215,000 bbls. daily average, Hines Baker of Humble Oil & Refining Co. pointed out to the commission in a memorandum.

Approximately 70,000 bbls. daily will be knocked off estimated demand by loss of export markets for crude and petroleum products. Another 17,000 bbls. of Texas' crude market will be displaced by Illinois crude, and approximately 40,000 bbls. will be eliminated if Texas is to balance crude output with demand, the Hines memorandum stated.

Phillips Wires FDR Compact Aid Ready

OKLAHOMA CITY, June 24. —Member states of the Interstate Compact Commission are ready to "meet instantaneously any changes in the world oil situation," Oklahoma's Governor Phillips wired President Roosevelt this week.

Governor Phillips told the President that the compact commission, of which he is chairman, was "ready to take whatever action is required on short notice to produce all oil necessary for all elements of national defense, and produce it without waste."

"If there is no legislation limiting or hampering the extension of pipelines, there is no reason why the oil industry cannot meet any demand of the regular market or of our government for an adequate supply of oil," the wire said.

U.S. 'Gas' Demand Gain Will Be 8.5% in July

N. P. N. News Bureau

WASHINGTON, June 22 — An 8.5% increase in domestic demand for motor fuel in July, a total of 54,800,000 barrels and "relatively large demand" for light fuel oils were predicted today by U.S. Bureau of Mines.

This 8.5% increase "is comparatively high because last year's demand was abnormally low," Bureau commented. "Actually, the general trend in domestic demand for motor fuel is only about 6% higher than a year ago," it was pointed out.

"Forecasts by the principal exporters of motor fuel indicate that foreign shipments of motor fuel will be very low for July," Bureau said, estimating total exports at 2,000,000 bbls., 400,000 bbls. under June estimate and 1,585,000 bbls. less than actual exports in July 1939.

Discusses 'Gas' Stocks

Discussing stocks of motor fuel Bureau stated that "if the industry continues to run sufficient crude to supply the demand for other oils, adequate reduction in gasoline stocks can not be made at the present yields." Bureau estimated "a possible reduction" of 5,600,000 barrels in finished gasoline stocks in July. Stocks of finished and unfinished gasoline on May 31 were placed at "approximately 101,600,000 barrels," which, Bureau said was "an amount far above the level of a year ago."

The Bureau said "the gasoline stock decrease in May was less than half that forecast by the Bureau."

Sizes Up Situation

Sizing up the general situation, the Bureau said "the increase in the domestic demand for motor fuel is being offset by the severe decline in exports so that the total demand in the third quarter may be less than 3% above last year. This situation, coupled with the high inventories of gasoline, normally would indicate a curtailment of runs. However, this objective has not been attained because of the relatively large demand for light fuel oils and the necessity of building up depleted stocks. To correct this situation low gasoline yields and high distillate yields are indicated as essential."

Bureau anticipates "no substantial increase" for August and September over July in crude runs to stills. "The decline in crude exports is offsetting the increase in runs and the total demand for domestic crude oil may be less than last year."

The daily average supply of domestic crude oil was estimated at 3,628,400 bbls. to meet market demand in July. This is 8100 bbls. more than estimated demand for June but 23,600 barrels less than actual demand for July, 1939. The low figure for next month, Bureau said, "is attributable chiefly to the decline in exports."

Gasoline Production

Estimated refinery production of gasoline in July, 50,100,000 bbls., was distributed among the various districts as follows:

District	Barrels
East Coast	6,720,000
Appalachian	1,930,000
Indiana-Illinois	10,050,000
Oklahoma	2,810 000
Kansas-Missouri	2,630,000
Inland Texas	3,630,000
Texas Gulf Coast	12,400,000
Louisiana Gulf Coast	1,500,000
Inland Louisiana-Arkansas	890,000
Rocky Mountain	1,350,000
California	6,190,000
TOTAL U. S.	50,100,000

State	Forecast July, 1940	Forecast June, 1940	Actual July, 1939
Texas	1,339,400	1,344,600	1,448,000
California	593,900	593,700	616,000
Oklahoma	403,900	408,600	427,000
Illinois	402,300	395,600	261,000
Louisiana	278,100	274,700	269,000
Kansas	159,400	159,000	182,000
New Mexico	106,100	106,700	127,000
Wyoming	80,600	73,000	67,000
Arkansas	67,400	66,700	58,000
Michigan	61,600	62,000	73,000
Pennsylvania	47,900	49,400	47,000
Montana	18,100	18,300	18,000
Kentucky	14,200	15,000	13,000
New York	14,000	14,000	10,000
West Virginia	10,000	11,000	11,000
Mississippi	9,700	7,000	.....
Indiana	9,000	8,000	4,000
Ohio	8,000	9,000	17,000
Colorado	4,800	4,000	4,000
	3,628,400	3,620,300	3,652,000

New Bureau of Mines Chief Sworn In

Dr. R. R. Sayers (center) is sworn in as director of U. S. Bureau of Mines. Interior Secretary Ickes (right) looks on while Floyd E. Dotson administers oath. Dr. Sayers comes to his new post after 26 years with U. S. Public Health Service

'Gas' Stocks Drop Only 300,000 Bbls. As Crude Runs Average 3,690,000 Bbls.

N. P. N. News Bureau

NEW YORK, June 25.—"Pretax" buying the past week apparently did not help much the overall position of the industry's gasoline inventory. The American Petroleum Institute today reported a reduction of 384,000 barrels in its estimate of total U. S. stocks during the week ended June 22.

Refinery crude runs averaged 3,690,000 barrels daily, up 70,000 barrels from the week ended June 15, and 200,000 barrels above runs in the 7-day period ended June 22, 1939. Gasoline production last week increased 318,000 barrels.

Largest gasoline inventory cuts were 226,000 barrels in the Oklahoma-Kansas-Missouri district, and 225,000 barrels in the Indiana - Illinois - Kentucky district. East Coast stocks were down 151,000 barrels but this was more than offset by an increase of 296,000 barrels at the Texas Gulf.

Inventories of gas oils and distillates increased 865,000 barrels to 32,751,000 barrels on June 22, and residual fuels were up 264,000 barrels to 104,683,000 barrels.

U. S. Ties Strings To Tankers

WASHINGTON, June 24.—U. S. Maritime Commission has approved sale by Standard Oil Co. of New Jersey of tankers to Panama Transport Co. and their registry under Panama flag upon condition that the boats be redocumented under U. S. flag on demand of U. S. Government.

Condition is same as that attached to earlier approvals of such transfers, Maritime Commission officials said. Transaction involves tankers; "T. J. Williams," " George G. Henry," and "John Worthington."

U.S. Motor Fuel Demand Gain Indicated

N. P. N. News Bureau

WASHINGTON, June 24.—Substantially increased gasoline consumption, together with increased demand for lubricating oils and crude oil, in May was reflected in U. S. Internal Revenue receipts for the month. Gasoline tax revenues totaled $18,958,336 against $16,376,983 in May, 1939; taxes on lubricating oils $2,853,244 in May against $2,551,012 in May, 1939; and taxes on oil transported by pipeline yielded $1,029,040 against $904,958 in May, 1939. Other tax receipts of interest compare as follows:

	May	
Source of Revenue	1940	1939
Gasoline	$18,958,336	$16,376,983
Trucks	846,397	627,863
Automobiles and motorcycles	7,922,862	6,367,382
Auto parts and accessories	951,537	711,722
Tires	3,094,943	1,993,222
Inner tubes	583,303	436,705
Lubricating oils	2,853,244	2,551,012

Latest Oil Industry Statistics

Production and Inventory of Penna. Lubricating Oils

(Compiled by National Petr. Ass'n. from reports of all companies which refine Penna. crude. Figures are for May, 1940 and in bbls. of 42 U. S. gals.)

	Production	Inventory
RAW LONG RESIDUUM (includes all raw long residuum below, and not salable as, 600 fire)	82,145	27,165
600 STEAM REFINED STOCK (includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock)	273,920	273,286
OTHER STEAM REFINED STOCK (not included in above)	90,390	95,504
FINISHED DEWAXED LONG RESIDUUM	40,457	74,822
BRIGHT STOCK (does not include any material reported in above product)	186,409	445,972
VISCOUS NEUTRAL, below 180 vis. but not below 142 vis. at 100	87,274	191,415
VISCOUS NEUTRAL, 180 vis. at 100 and above	87,805	134,969

Weekly Changes in Crude Oil Stocks*

(Thousands of barrels)

Grade or Origin	June 1	June 8	June 15	Change from June 8
Pennsylvania Grade	4,469	4,458	4,461	+ 3
Other Appalachian	1,158	1,159	1,196	+ 37
Lima-Michigan	1,564	1,563	1,545	— 18
Illinois-Indiana	21,023	20,476	20,502	+ 26
Arkansas	3,191	3,305	3,447	+142
Kansas	7,827	7,611	7,550	— 61
Louisiana:	11,900	12,065	11,981	— 84
Northern (inc. Miss.)	4,349	4,388	4,512	+124
Gulf Coast	7,551	7,677	7,469	—208
New Mexico	6,991	6,957	6,853	—104
Oklahoma	63,871	64,542	64,370	—172
Texas:	84,349	82,717	82,822	+105
East Texas	19,426	18,926	18,890	— 36
West Texas	19,368	19,115	19,234	+119
Gulf Coast	21,130	20,080	20,405	+325
Other Texas	24,425	24,596	24,293	—303
Rocky Mountain	16,432	16,193	16,132	— 61
California	36,024	35,860	35,573	—287
Foreign	2,863	2,800	3,368	+568
Total U. S. refinable	261,662	259 706	259,800	+ 94
Heavy in California	13,100	13,007	13,020	+ 13

*As compiled by U. S. Bureau of Mines.

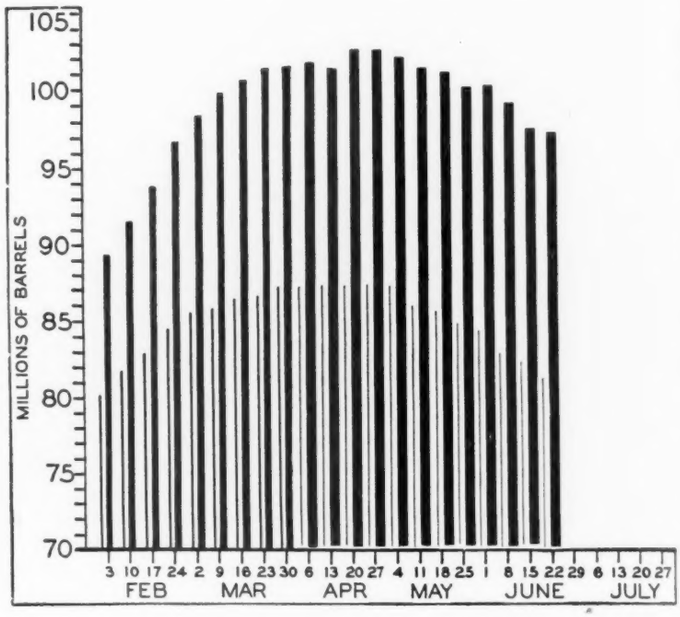
Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended June 22 Barrels	June 15 Barrels	June 8 Barrels
Oklahoma	420,750	399,550	437,250
Kansas	178,350	170,650	150,950
Nebraska	100	200	250
Texas	1,399,700	1,398,250	1,393,950
Louisiana	291,700	295,600	291,450
Arkansas	72,450	71,600	71,500
Mississippi	11,600	10,150	10,900
Illinois	502,000	477,750	457,200
Indiana	11,100	12,400	12,850
Eastern (Ill. and Ind. excluded)	91,450	93,050	92,800
Michigan	55,900	56,700	58,900
Wyoming	78,250	64,900	74,200
Montana	17,850	17,850	17,800
Colorado	3,950	3,350	3,200
New Mexico	104,100	107,400	107,350
California	607,200	636,800	636,400
Total U. S.	3,846,450	3,816,200	3,816,950
Crude Imports	179,571	151,285	107,710
Total New Supply	4,026,021	3,967,485	3,924,660

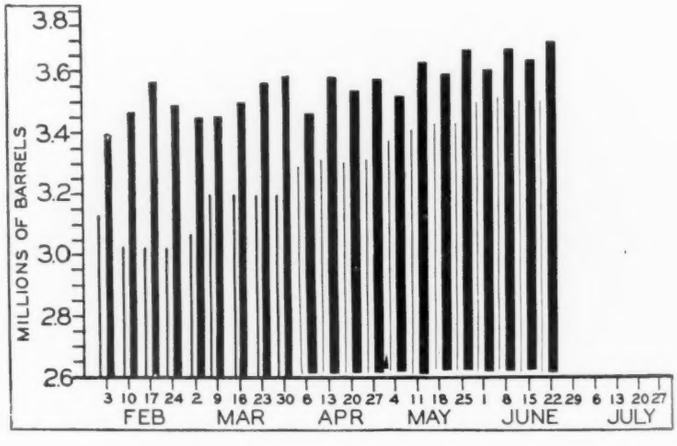
Total U. S. Motor Fuel Stocks

Heavy Line—1940 Light Line—1939



Daily Average Crude Runs to Stills

Heavy Line—1940 Light Line—1939



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended June 22	June 15	Per Cent of Reporting Capacity Operated Week Ended June 22	June 15†	(a) Gasoline Production Week Ended June 22	June 15	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended June 22	June 15	Stocks of Gas Oil & Distillates At Refineries Week Ended June 22	June 15	At Terms. Trans. Pipelines Week Ended June 22	June 15	Stocks of Residual Fuel Oil At Refineries Week Ended June 22	June 15	At Terms. Trans. Pipelines Week Ended June 22	June 15
East Coast	606	590	94 2	91 8	1,669	1,456	23,206	23,357	4,561	4,161	4,965	4,584	3,976	3,845	4,868	4,700
Appalachian	116	123	81 7	86 6	442	464	3,672	3,688	230	240	106	103	561	598	----	----
Ind., Ill., Ky.	592	544	95 5	87 7	2,470	2,279	16,586	16,811	3,179	2,998	416	454	3,189	3,257	107	79
Okla., Kans., Mo.	282	282	87 3	87 3	(c)957	(c)1,004	7,502	7,728	1,107	1,094	49	50	2,079	2,027	----	----
Inland Texas	119	119	71 3	71 3	484	564	1,912	1,958	304	289			1,448	1,480		
Texas Gulf	835	859	91 4	94 0	2,572	2,671	14,738	14,442	4,316	4,274	573	531	5,343	5,451	268	241
La., Gulf	116	106	72 5	66 3	302	209	2,615	2,609	1,037	1,062	25	30	861	797	256	284
No. La., Ark.	42	42	80 8	80 8	99	111	537	552	242	242	28	18	462	471	----	----
Rocky Mt.	46	54	69 7	81 8	190	196	1,497	1,515	144	140			605	620		
California	547	517	74 9	70 8	1,389	1,342	17,966	17,950	7,844	7,950	2,080	2,166	55,164	54,936	23,276	23,412
Total Reporting	3,301	3,236	86 5	84 8	10,574	10,296	90,231	90,610	22,964	22,450	8,242	7,936	73,688	73,482	28,775	28,722
U. S. Total (d)	3,690	3,620			12,085	11,767	97,276	97,660	23,864	23,330	8,887	8,556	75,698	75,487	28,985	28,902
U. S. Total 6-22-39 (d)	3,490				11,497		81,331		22,901		7,893		83,069		29,176	

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

FIRST indications of war-scare censorship on technical development were evident during the summer meeting of the Society of Automotive Engineers at White Sulphur Springs two weeks ago. Two papers on aviation fuels, both of which indicated possible remarkable increases in present production of high-octane aviation fuel, already several times our present needs, were read without discussion at the request of a government military source. Preprinted copies of the papers were not distributed and it was further requested that no notes be taken during the reading of the papers.

The most striking impression gained from these excellent papers is the vast increase in quantity of aviation fuel that can be produced without drawing upon new or difficultly obtained raw materials. D. P. Barnard and R. B. Cragin, Standard of Indiana and Kellogg company representatives respectively, showed how this can be done cheaply with catalytic cracking if aromatic type fuels are accepted. W. D. Parker and R. C. Alden, Phillips company technologists, advocated less restrictions on volatility and vapor pressure in specifications, accompanying their paper with laboratory evidence of the comparative safety of volatile fuels.

* * *

This voluntary censorship on the part of the S.A.E. was accepted willingly at the White Sulphur meeting. Reasons were vague but few questions were asked. Whatever the reasons were, it was apparent that the material presented in the papers could not have been the leading reason for their suppression. What might have been brought out in an open discussion of the relations between fuels and engines appears to have more plausibility as a reason for this censorship.

Censorship is, of course, a necessity in war time, or even when there is a threat of war, but it is to be hoped that a wise censorship be invoked and not one that will suppress continued technological advances which depend so heavily upon the free intercourse of ideas in our technical journals.

Suppression of facts often leads to false conclusions. While this may not result in this particular instance, on the other hand, the natural conclusion of an average citizen might be that the aviation fuel problem is a menacing and difficult one to solve. The fact is that providing present top-grade fuels will be no problem at all as compared with others which have come up in the consideration of a military preparedness program, such as a probable shortage of skilled workmen and machine tools for airplane manufacture.

* * *

"Pop" Soloman, Baytown stillman for Humble, is $500 richer since the recent quarterly meeting of the Central Coin-Your-Ideas Committee because his suggestion was judged the best submitted by employes during 1938. That is not all he has received for this idea either. The initial reward was $50 and this was supplemented later by $200 and now with this $500 addition, making his total reward $750.

His prize idea was a method for eliminating salt deposits by injection of fresh water in lines and exchangers at one of the pipe stills. Frequency of clean-out was reduced to twice a year and considerable savings were reported.

Humble employes find new interests in their jobs with this opportunity to profit from their ideas. Total awards for the quarter just ended were $1780, according to the last issue of The Humble Refinery Bee, which named 18 recipients.

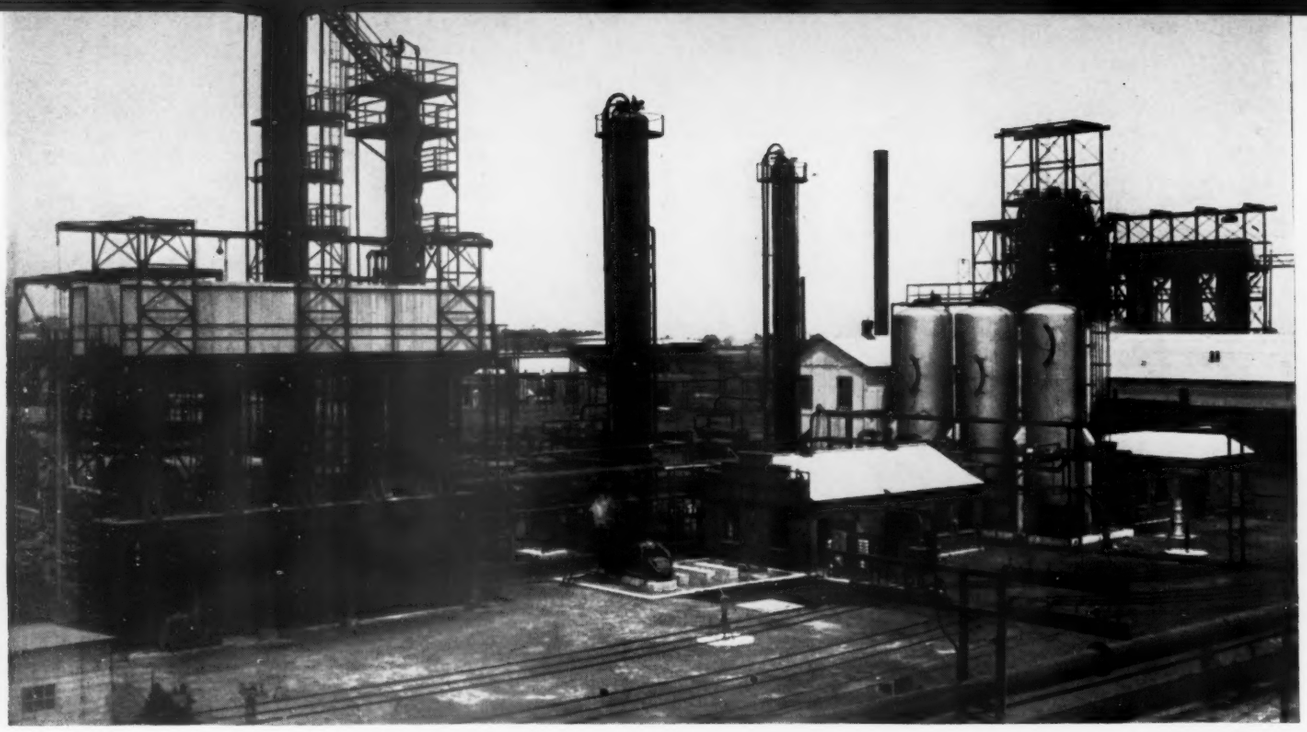
The Humble plan goes beyond the mere receiving of suggestions. One of the functions of the committee on awards is to assist employes in perfecting or improving original suggestions while still giving the employe full credit for the idea. There is no paternalism in such a plan. It is merely giving an employe a fair return for an extra service to his employer. It might be argued that a worthy employe gets his rewards eventually by promotion anyway, but the answer is that he probably deserves both.

* * *

There is no more interesting study than that of the mechanics of combustion in gasoline engines. That real progress is being made in this line of endeavor is evident with each addition to the literature on the subject. Eventually these fundamental studies may be expected to solve the problem of engine knock and perhaps put to work that fraction of energy in motor fuel which exhausts itself explosively under certain conditions and lessens the power which might be derived from the fuel.

The study of combustion is now being attacked on two main fronts, according to D. T. A. Townend, University of Leeds, in summarizing the present state of the art. These are "slow" and "explosive" combustion. The former is described as that which is restricted to the temperature and other conditions under which interaction between the combustible and oxygen may be controlled easily, whether its completion be effected in seconds or in hours. Explosive combustion comprises thermal, electrical, photochemical and other agencies capable of effecting the ignition of an explosive mixture and the mode of propagation of the flame.

From this description it is evident that the problem is one for the pure researcher and far removed from the engine test laboratory. There are a number of complications in the problem that have yet to be worked out which indicate that the solution will not be forthcoming for a long time. Past progress, however, has put what appeared to be a hopeless maze into some semblance of order and new lines of attack have been singled out with fewer and fewer uncertain variables with which to contend.—M. G. V.



Five copper pyrophosphate catalyst chambers for polymerization of cracked gases are built in the compact unit shown at the left foreground. Behind the unit are (left to right) the depropanizer, de-ethanizer, and debutanizer towers. The pump house is at the right.

729.6

Sohio Polymerization Unit First Using New Catalyst

By M. G. Van Voorhis

ABSTRACT

The first commercial unit of a new catalytic polymerization process has been operating at Standard of Ohio's Toledo refinery for six months, taking feed from high-pressure stabilizers on a 13,500-barrel combination cracking plant. The unit converts 80% of the unsaturates which make up 32.4% of the feed into 84-octane polymer of high blending value. At least 95% of the product has an end-point of 400° F. and all is blended into motor fuel. The catalyst is copper pyrophosphate.

A NEWCOMER in the field of catalytic polymerization has made its appearance in commercial plant-size units during the past few months. The first unit, of 3000 barrels daily capacity, was installed at the Toledo refinery of the Standard Oil Co. of Ohio and has been operating since Nov. 15, 1939. The unit is licensed by The Polymerization Process Corp. and was built by The M. W. Kellogg Co.

The new unit at Standard's Toledo plant uses as charge stock gases produced by a Kellogg combination unit of 13,500 barrels daily crude capacity and 6600 barrels cracking capacity which represents the total crude capacity of this refinery. Crude supply for the refinery comes from the Michigan and Illinois fields.

The polymerization unit is operating at about 2500 barrels per day average throughput and produces about 500 barrels of 84-octane (A.S.T.M.) polymer gasoline, at least 95% of which has a 400° F. end point. One of the reasons for choosing this unit was the high blending value of the product. Its average blending value is 95 octane. The product is used in both regular and premium grade motor fuels to a maximum of 10%. In addition to polymer gasoline the unit produces finished propane and butane for commercial "bottled gas".

The catalyst employed in the process is copper pyrophosphate in pellet form, described in patent number 2,189,655 issued to R. F. Ruthruff Feb. 16, 1940. Under present operating conditions the yield of polymer gasoline per pound of catalyst from the Toledo unit has been quite satisfactory. It is the practice at the Sohio plant to discard spent catalyst and replace it with new material.

Conversion of the unsaturates in the feed is now approximately 80% but still higher conversion up to 85% is expected to be accomplished when proper adjustments of the process have been made. The unsaturates make up 32.4% of the charge stock, as indicated by the accompanying table.

Properties of Polymer Gasoline

Octane number		84
Blending value in leaded stock		95
Initial boiling point	85° F.	
Evaporated at	140° F.	25%
Evaporated at	257° F.	73%
Evaporated at	347° F.	92%
End point	440° F.	
Polymer of 400° F. end point (min.)		95
Gravity, A.P.I.		69.3
Copper dish gum		10 mg.
Sulfur		.015%
Reid Vapor Pressure, lbs.		10

A leading feature of the process, pointed out by Dr. F. S. Sanders, superintendent of the Toledo refinery, is the fact that it is unnecessary to rerun the product to separate out polymer that is unsuited for blending with

other gasoline. In other words, all of the polymer product produced can be blended into motor fuel. Another feature of the Sohio's unit is provision for separation of finished propane and butane suitable for marketing as such.

The propane is used also as a means of temperature control in the catalyst cases without the necessity for a separate cooling system. Butane is partly blended back into finished gasoline. Ethane is also separated from the reacted products and used as refinery fuel.

The Flow

The Sohio plant was ideally suited to the addition of the catalytic polymerization unit since the absorbers and stabilizers of the combination unit were of a high pressure type making it unnecessary to compress the normally gaseous products into liquid form. The feed comes from a combination cracking unit and is an overhead cut from the stabilizer containing a minimum of pentane. The raw feed is first given a caustic wash and then pumped to a feed accumulator. From here it is picked up by a steam-driven plunger-type pump which raises the pressure to 900 psi. as shown on the accompanying flow diagram. The feed then passes in heat exchange relation with products leaving the reactors and into a heater at 290° F. From there it enters the first of four reactors arranged in series, at a temperature of 415° F. While there are five reactors shown in the accompanying diagram and they may be used at times all at once, normally only four are on stream at one time, the fifth being a spare or being recharged. The polymerizing reaction is an exothermic one. Therefore it is necessary to provide means of maintaining a constant temperature in the reactors. A temperature of 415° F. is held by means of recycling the light products separated in the depropanizer. These are sprayed into the four beds of catalyst in each of the five reaction chambers, as previously indicated. There is also provision for using the unheated feed stock for temperature regulation if desired.

The reaction products, on leaving the last of the four reactors, pass direct to the depropanizer which is of conventional design. The propane to be collected as product passes into the de-ethanizer from which it is collected as bottoms. Based on yields computed for a day when the feed totalled 2008 barrels, the propane yield was 418 barrels.

The overhead from the de-ethanizer is pumped to a flash drum maintained at 450 psi. and 70° F. and the gaseous product measured on this particular day was 617,000 cu. ft. Total gas and loss amounted to 617 barrels. The condensed product in the flash drum is picked up by a pump and returned to the top of the tower at 880 psi.

Bottoms from the depropanizer, which contain polymer and butane, pass to the debutanizer and the butane is separated. The yield corresponding to a feed of 2008 bar-

Contents...

REFINING TECHNOLOGY
June 26, 1940

New 3000-barrel polymerization unit using new catalyst converts 80% of unsaturates into gasoline having a blending value of 95 octane number R-230

A large-scale plant producing neohexane, recently put in operation by Phillips Petroleum Corp., is described for the first time with a flow chart to show the steps in the process. The highest pressure yet used in a commercial oil refining process is employed, by R. C. Alden R-234

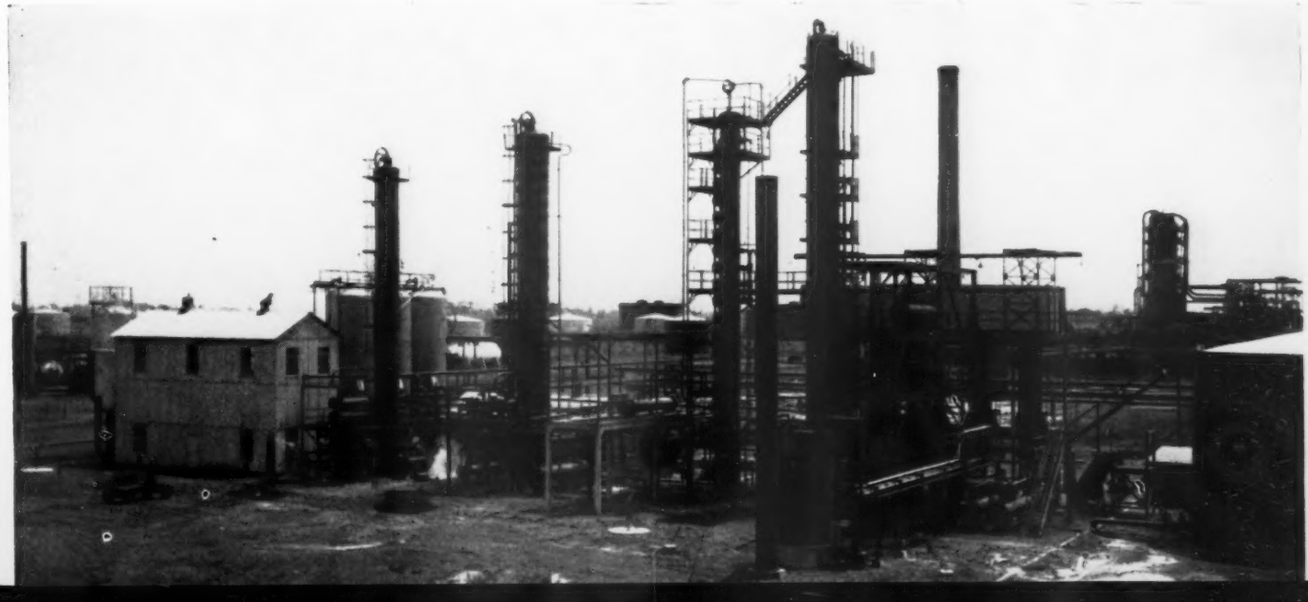
Oil industry demonstrates its ability to provide higher octane fuels and opens way for automotive engines better able to convert the fuel's heat energy into power. Smaller units with higher compression ratios predicted as regular grade motor fuel octane number pushes toward 90 ..... R-242

Other Editorial Index 11

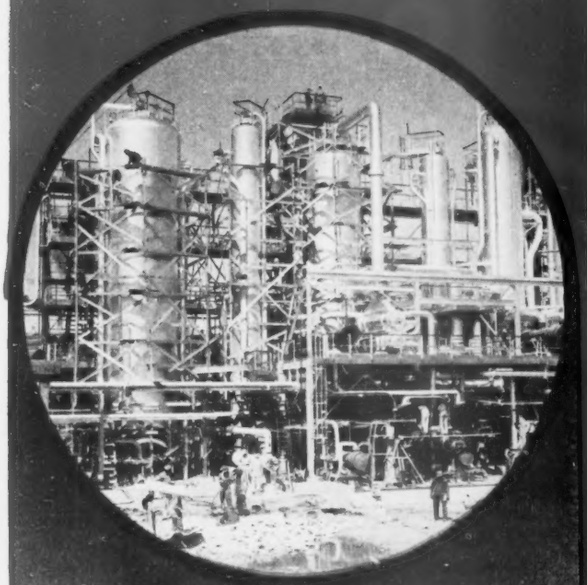
Advertisers' Index ..... R-243 and 55

New Patents R-243

A rear view of Sohio's "catpoly" plant shows the furnace in the right foreground. At the extreme left, the poly-feed accumulator (on legs) stands at the corner of the feed-treating building. The tower and cluster of tanks at the right corner of the building are not a part of the poly plant



The Successful Operation of Refineries Depends Upon Many Individual Factors—



The selection of the correct processes, and the design and physical characteristics of the processing equipment play equally important parts in assuring greater and longer operating success for any refinery.

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rels was 566 barrels. The polymer, collected as bottoms from the debutanizer, totalled 407 barrels or 20% of the feed. While the yield of polymer is expected to reach 25%, the charge stock and conditions of operation have not yet been adjusted to attain this goal. The polymer gasoline very close to doctor sweet as it leaves the unit, is pumped to storage from whence it is withdrawn for blending with the cracked product.

The charge stock for the polymerization unit consists of 91.6% C_3's and C_4's as shown by the accompanying table. The unsaturates make up 32.5% of the total feed and are contained in the C_2, C_3, and C_4 fractions. The unsaturates make up 15.2% of the C_3's, 30.9% of the C_4's, and 37.8% of the C_4's.

Charge Stock Properties

	Mol %	Unsaturates	Unsaturates % of charge
C_1	0.6	....	....
C_2	6.9	15.2%	1.05
C_3	47.7	30.9	14.75
C_4	43.9	37.8	16.6
C_5	0.9	....	.....
			32.4
Per cent conversion of unsaturates			80-85%
Yield of polymer gasoline			2.6% of crude

Each catalyst chamber, which is 3½ feet in inside diameter and 22½ feet high, contains four beds of catalyst supported one above the other on perforated plates. Under each bed is a space provided for the spray of quench medium. An ingenious device is provided for filling and emptying the catalyst chambers.

The simple design of the heater is also a feature of the plant. The heater is a small gas-fired unit consisting of a vertical cylinder around the inside of which is a single heating coil of stainless steel wound helically from top to bottom. A single gas burner is located in the bottom and a stack takes off from the top. The remainder of the equipment is of conventional design. Part of the fractionating equipment was taken from other service.

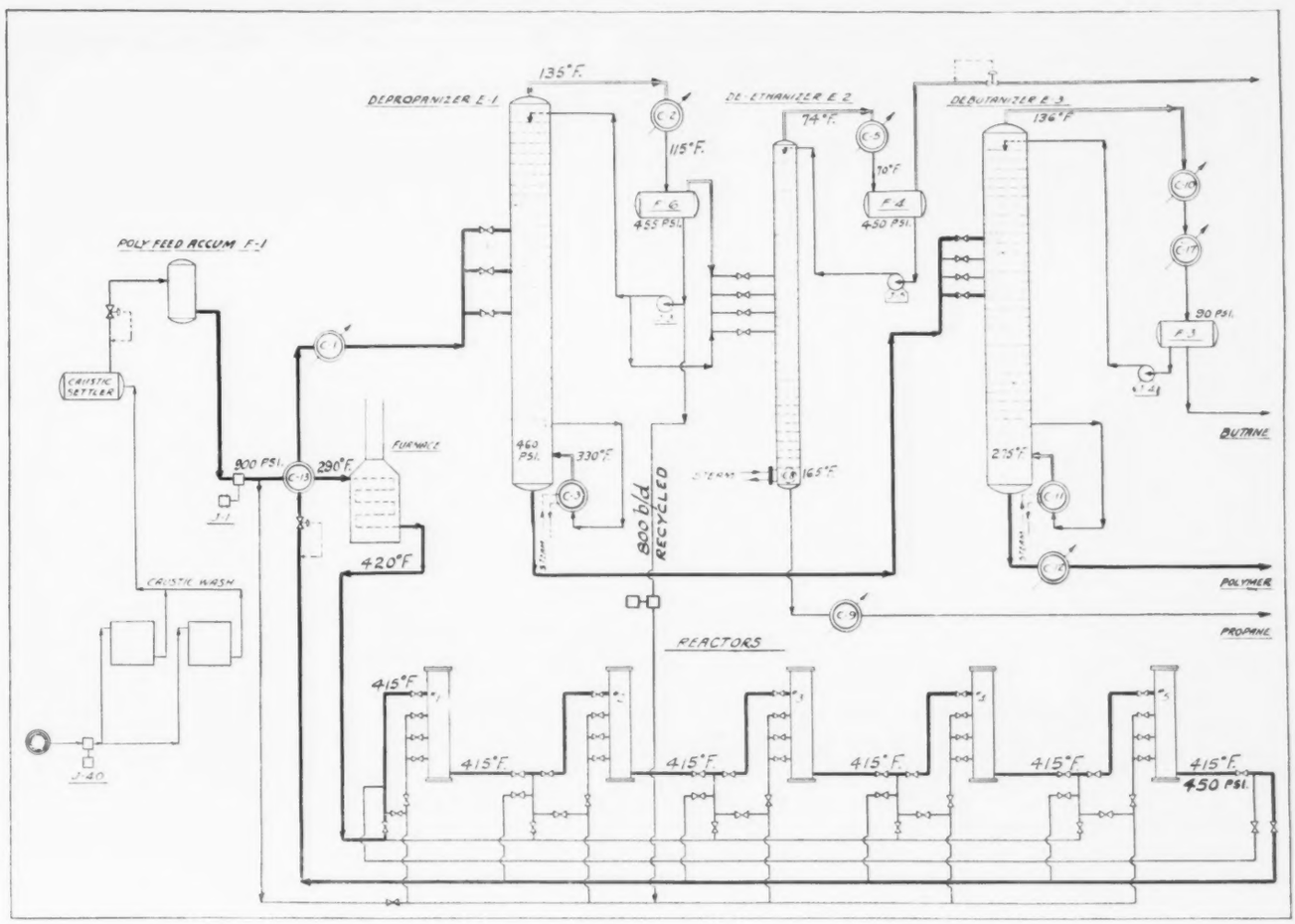
Automatic controls are employed in operating the unit. An ingenious method of tying the unit with the combination cracking unit is provided by locating the liquid level and flow recorders and controllers for the combination unit on the polymerization control board as well as on the control board of the combination unit.

Automatic temperature recorders keep constant check on the catalyst cases. These temperatures tend to become lower as the catalyst loses its activity but are kept under control by gradually reducing the flow of quenching fluid. The flow of quenching is used as an indication of the condition of the catalyst beds. Thus when no quench is required it is apparent that no polymerizing reactions giving off heat are in progress.

Principal maintenance of the plant is in the weekly charging of catalyst cases and except for this its cost is expected to be quite low. There is no evidence that any corrosive condition exists and the materials of construction of the catalyst cases are of plain carbon steel. The unit requires the full-time attention of two men.

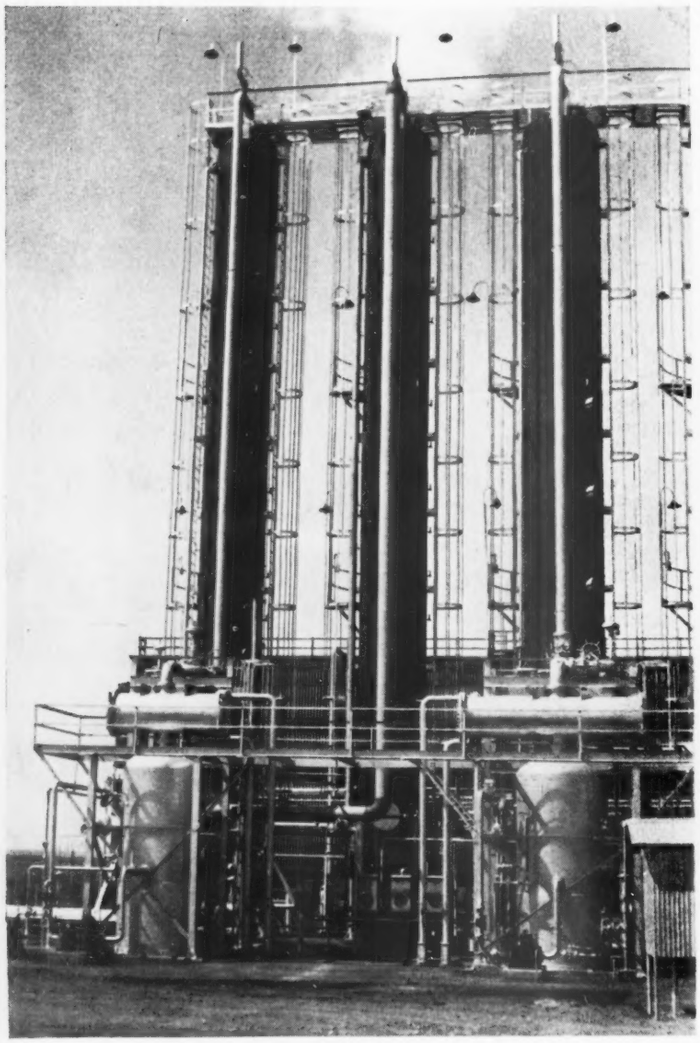
The original power requirements included 13,000 pounds of steam per hour, 1,500 gallons per minute of water, 15.6 kilowatts of electricity for four motors, and 325 pounds of fuel gas per hour. The power requirements are all supplied by the refinery's own power plant.

Since installation of the Sohio polymerization plant it is understood that one other unit is in operation and several other units are under construction.



Flow chart of Sohio's new Polyco catalytic polymerization unit at its Toledo refinery. The heavy line shows the main stream of feed and polymer. Four reactors are generally on stream at one time

Neohexane Plant Operating At Record High Pressures†



Fractionating columns used in separating neohexane from alkylation products

By R. C. Alden*

ABSTRACT

A large scale plant to produce neohexane, reacting ethylene with isobutane, has recently been put in operation. A flow diagram showing the process steps is presented and described. Isobutane is pumped at 4500 psi. pressure through the alkylation coil to which is added at several points, controlled quantities of an ethylene-isobutane mixture. The temperature in the alkylation coil is 950°F. The alkylation products are neohexane and high octane-number motor fuel, the latter containing appreciable quantities of synthetic isopentane resulting from the juncture of ethylene and propane.

Both the large scale plant and the pilot plant have reproduced in all important respects the chemical reactions that were early obtained in laboratory experiments carried out on a very small scale.

Neohexane with its high octane number, excellent susceptibility to tetraethyl lead and high volatility will overcome the volatility handicap that has heretofore existed in the path to aviation fuels of much greater antiknock value than 100 octane number. Associated with the large scale neohexane plant described are facilities for the manufacture of iso-octane for the large scale separation of isopentane and supplies of straight-run and natural gasolines. This combination of aviation gasoline blending materials makes it possible to provide aviation gasoline to meet any combination of volatility and antiknock requirements from the most ordinary up to the 110-115 octane number range.

MUCH has been said of the rapid progress of aeronautics during the last few years, of ever higher airplane speeds and greater cruising distances. The improvement in aviation engines and their performance, as much as any other factor, has made this progress possible. More power per unit of engine weight and lower fuel consumption are primary requirements. This calls for high effective compression ratios, and places stringent requirements on the fuel. Very high octane number is demanded, which is at the same time not depreciated by high engine temperature. Paraffinic fuels possess the latter characteristic, but only a few individual paraffin hydrocarbons have also the necessary high octane number. Straight run and natural gasoline of suitable volatility are mainly paraffinic but contain only a minor proportion of high octane number paraffins. Isopentane (about 90 octane number) produced from natural gasoline by fractionation is a notable exception.

Some experience has already been accumulated in the manufacture of fuels of higher antiknock value than 100 octane number. This work has been done mostly in the field of preparing gasolines of 90 to 95 octane number without using tetra-ethyl lead. In this work, experience thus far has been that so large a proportion of commercial iso-octane must be used that the final blend is deficient in volatility. This difficulty can be overcome by (a) revision of the conventional volatility specifications, (b) by increased volatility in commercial iso-octane and analogous materials, (c) by finding superior straight run volatilizers

†Presented at a meeting of the Natural Gasoline Association of America, May 15-17, 1940.

*Director of Research, Phillips Petroleum Co., Bartlesville.

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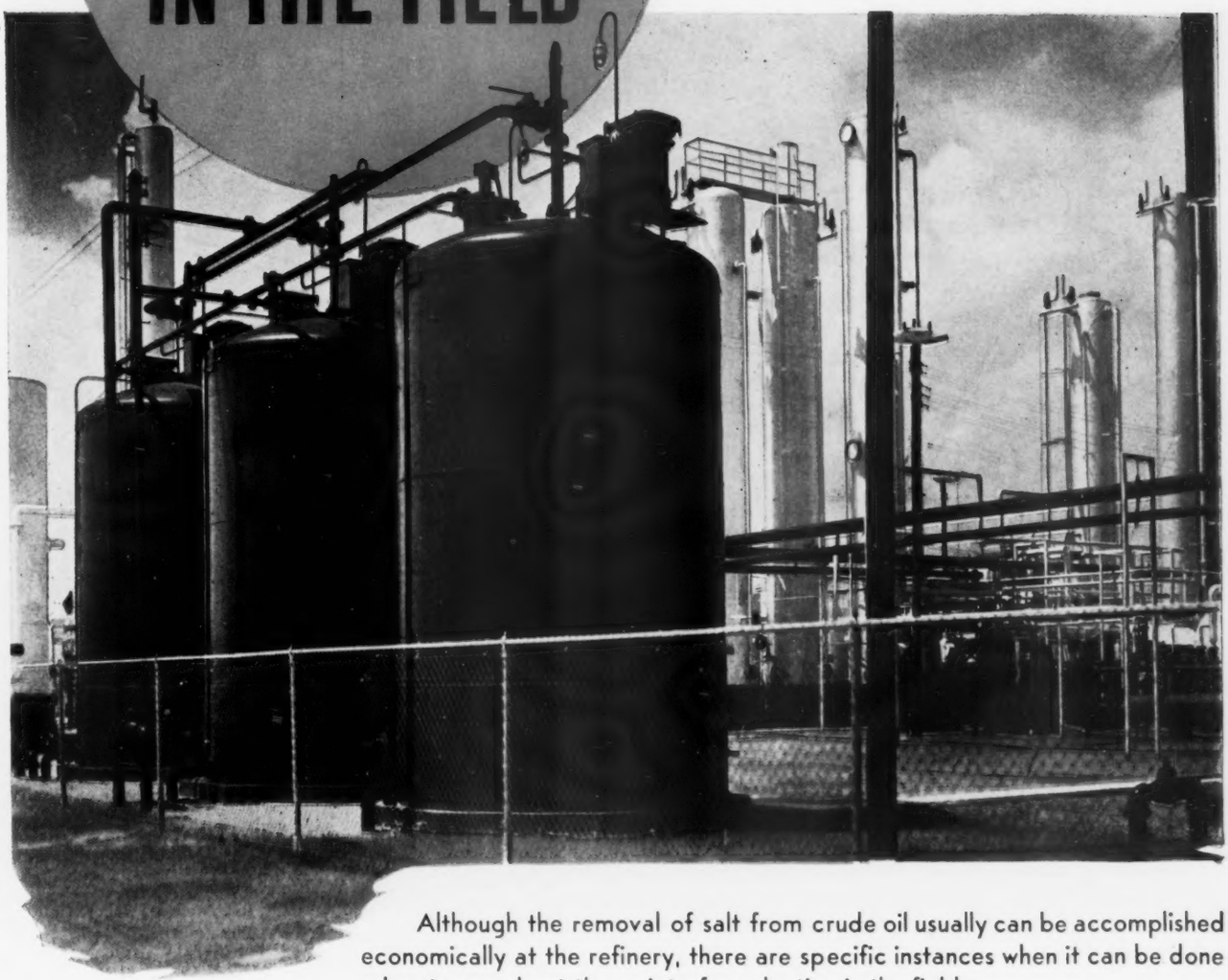

Although the removal of salt from crude oil usually can be accomplished more economically at the refinery, there are specific instances when it can be done more advantageously at the point of production in the field.

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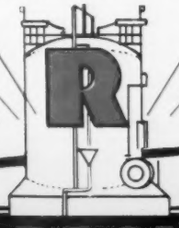

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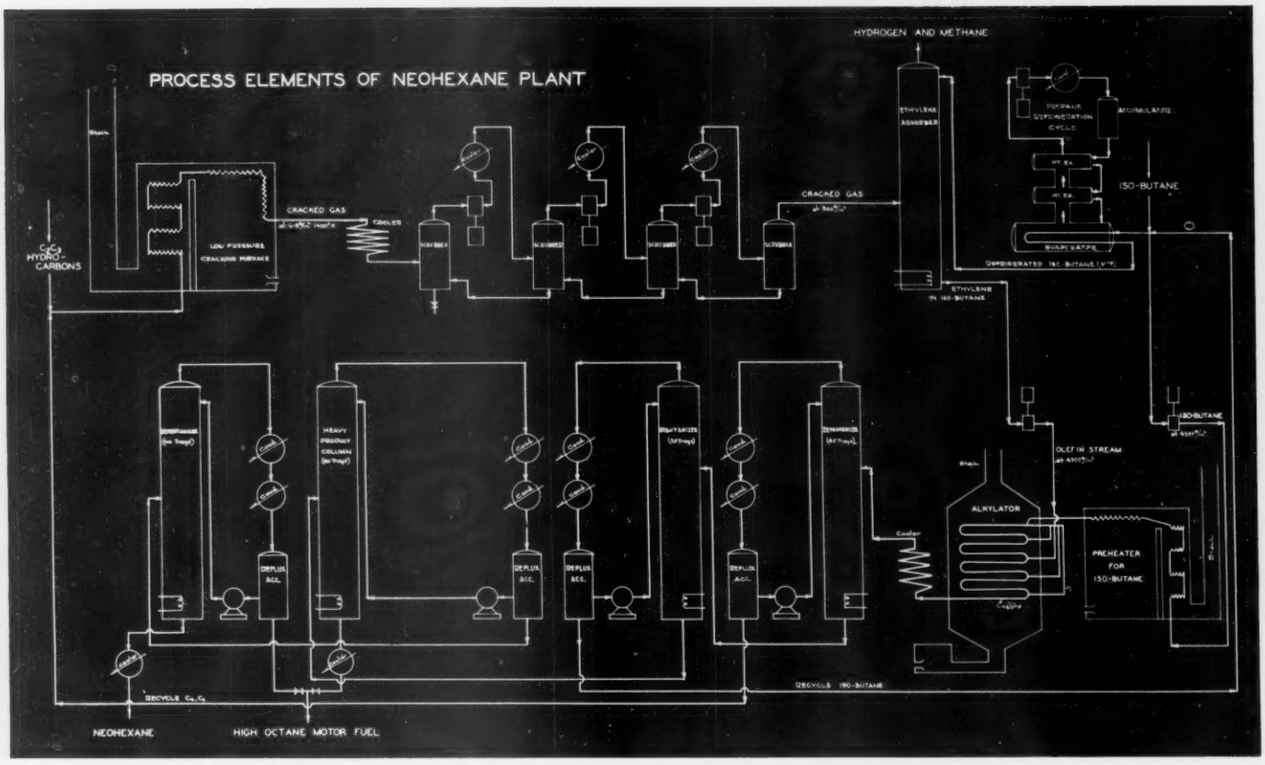
DEHYDRATION and DE-SALTING PROCESSES

Figure 1. Flow diagram of the neohexane process



for use with commercial iso-octane and (d) by volatile synthetic blending agents.

As will be developed subsequently, neohexane will definitely be of assistance in overcoming the gap between volatility and antiknock characteristics of blending materials heretofore available for the progress toward aviation fuels of higher and higher antiknock values.

Controlled Chemical Synthesis

The construction of a plant, to produce neohexane commercially for the first time, was announced six months ago by Phillips Petroleum Co. This plant has now been in operation for several weeks and deliveries of neohexane have begun. The neohexane process falls in the general category of polymerization processes; it converts gaseous hydrocarbons to liquid hydrocarbons. The conversion is effected without catalysts but is essentially a controlled chemical synthesis. The conversion is carried out in one or two stages depending on whether ethylene is available as such or must be obtained by controlled cracking.

(1) Ethane and propane are cracked to produce ethylene.

(2) Ethylene plus isobutane are reacted together to produce neohexane.

The process elements are shown schematically and in somewhat simplified form in Fig. 1. A C_2—C_4 mixture is cracked to produce ethylene in tube furnace units. For efficient ethylene production, cracking at high temperature and low pressure is required. The temperature and pressure are approximately 1400°F. and 6 to 12 pounds (gauge) respectively. The tube coils are of necessity constructed of a highly heat resisting ferrous alloy. The severity of the cracking is so regulated as to produce a maximum content of ethylene in the cracked gas, the cracked gas containing under these conditions only a little ethane and propane, together with hydrogen, methane, propylene and minor amounts of other constituents.

The cracking reactions for the saturates in the coil are mainly the following:

(1) C_2H_6 ethane $\rightarrow$ H_2 hydrogen + C_2H_4 ethylene

(2) C_3H_8 propane $\rightarrow$ CH_4 methane + C_2H_4 ethylene

(3) C_3H_8 propane $\rightarrow$ H_2 hydrogen + C_3H_6 propylene

The cracked gas, after cooling and passing through an oil scrubber to remove a trace of light carbon and tar formed in the cracking, passes to a compression system in which it is raised in three stages to a high pressure to facilitate ethylene recovery. Small quantities of aromatic oils formed in the cracking operation are condensed and removed and the ethylene is then extracted for subsequent reaction with isobutane to produce the neohexane. The extraction is accomplished in a bubble tower, the ethylene absorber, using isobutane as the absorption medium. The enriched isobutane contains virtually all the ethylene, as well as the limited amounts of the more readily extractable propylene, propane and ethane surviving the cracking. Methane and hydrogen are not absorbed and pass from the top of the absorber.

Both the high absorption pressure and a degree of refrigeration are required to obtain efficient extraction. The refrigeration of the incoming isobutane is effected by a conventional propane refrigeration cycle, and additional facilities not shown, are provided to increase the efficiency with which refrigeration is utilized. The operating conditions in the ethylene absorber are: pressure, 800 psi.; temperature of incoming isobutane minus 30°F. The enriched isobutane contains approximately 50% of hydrocarbons extracted from the cracked gas.

4500-Pound Pressure Employed

The alkylation, or more specifically the ethylation, of isobutane by the ethylene is carried out at 4500 psi., the highest pressure in commercial use for any hydrocarbon polymerization process. The temperature in the alkylation coil is maintained at 950°F.

From an engineering aspect the thermal alkylation reaction is in certain respects self controlling. The poly-

950°

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merization and alkylation of ethylene are exothermic reactions while the cracking of isobutane is endothermic. If for any reason excess temperature tends to develop from polymerization or alkylation the onset of cracking will automatically prevent the temperature from climbing to too high a level. Although it is important to have the time, temperature, pressure, and concentration factors well under control this noteworthy safety factor is of considerable value in the design and operation of a thermal alkylation plant. This feature minimizes the harmful effects that would otherwise be expected with occasional high proportions of ethylene.

The 4500-pound pressure gives efficient alkylation and virtually eliminates carbon and tar formation as operating problems, but it presented many new engineering problems to be solved. However, to consider first the conversion unit, the basic requirement is that, while isobutane is maintained at conversion temperature, the ethylene must be introduced in low concentration during reaction, more being added as it is consumed. Added in high concentration, the ethylene will polymerize, and become unavailable for undergoing union with isobutane to produce neohexane. In the plant this is accomplished by passing the isobutane stream through a tube coil at reaction temperature and introducing the enriched isobutane containing the ethylene simultaneously through several inlets distributed along the reaction coil.

The isobutane is raised to 4800 pounds pressure by a multiple cylinder charge pump, equipped with internal cooling for the plungers, and it then passes through a tube furnace in which it is brought to reaction temperature. The stream then passes through a reaction coil in a separate housing. The olefin feed inlets consist of small diameter tube inlets discharging into those of the removable headers so located as to give the proper reaction time interval between additions. The flow volume to each inlet is maintained at the desired rate by a flow controller operating at a pressure level necessarily slightly higher than the reaction pressure itself. The enriched isobutane stream is delivered to the inlets by a separate charge pump of the type used to charge the isobutane. Some additional heat is required, and the reaction temperature in the coil is maintained at the desired level with the assistance of hot flue gas passing upward around the tubes, the temperature being maintained at the desired level by the aid of heat from additional products of combustion.

The stream discharged from the alkylation coil passes through an expansion valve, where pressure is reduced to about 800 psi., then through waste heat boilers where the heat in the stream is used to produce steam, for use in the process and elsewhere. From the waste heat boilers the stream passes to a depropanizer column, where there is eliminated ethane and propane surviving the original cracking and a minor amount of methane produced in the alkylation, which are returned as feed to the cracking operation. To avoid loss of isobutane to the overhead stream, some refrigeration is required for producing the reflux. This column operates with a top temperature of about 104°F. under about 325 psi. with a reflux ratio of 5.5 to 1. The stream then passes to the debutanizer column, where there is removed the isobutane, present in large excess, which is returned to the alkylation and absorbing steps. This column operates with a top temperature of about 125°F. at 100 psi. The reflux ratio is about 1.5 to 1. The debutanizer kettle product is the total alkylation product, virtually all in the gasoline range, containing a small amount of pentanes and a major amount of hexanes and higher, respectively lighter and heavier than the neohexane present.

The fractionation required to isolate the neohexane is indicated by reference to the tabulation below, which shows the saturated hydrocarbons also present of neighboring boiling point. Minor amounts of unsaturates are also present in this range.

	Degrees Fahr.
Isopentane	82.3
n-Pentane	96.8
Neohexane	121.5
2, 3-Dimethylbutane	136.6
2-Methylpentane	140.4
3-Methylpentane	145.8
n-Hexane	155.8

The intervals separating neohexane from its higher and lower neighbors are sufficiently great to make its isolation reasonably easy in rather pure condition.

The total alkylation product passes to a column to make the separation between the neohexane and the heavier material. The separation is exacting, since high purity of the neohexane is desired, so a 60-plate column is used at this point. The neohexane and lighter, produced as overhead

The first tank-car shipment of neohexane called for a celebration at the Phillips plant

product, pass to a virtually identical volumn where the lighter material is eliminated and neohexane produced as the kettle product. These columns operate at low pressures, 5.5 and 14 psi. respectively and with top temperatures of 124°F. and 107°F. The close fractionation desired calls for rather high reflux ratios, 10 to 1 or somewhat less.

The lighter material removed in the second column, described in the preceding paragraphs, is C_5 hydrocarbons, a large proportion of which is isopentane. It is worth noting that in addition to the neohexane produced, respectable proportions of isopentane are likewise being synthesized at this plant. This isopentane is formed in the alkylation coil by the juncture of ethylene with propane.

Neohexane a Single Hydrocarbon

Neohexane, unlike commercial iso-octane is a single hydrocarbon individual, 2,2-dimethylbutane, while commercial iso-octane is usually a mixture of 2,2,4-trimethylpentane, the standard reference fuel of 100 octane number, with other octanes of higher boiling point and high but variable octane number. For this reason neohexane, regardless of origin, tends to approach constancy of octane number and other properties as the purity is increased through the use of close fractionation. This is brought out by the following tabulation.

Neohexane from Various Sources

	(1) Laboratory alkylation	(2) Neohexane pilot plant	(3) Commercial plant
Gravity °API	84.5	84.4	83.0
RVP	9.7	9.7	9.55
Distillation (ASTM)			
Per cent distilled			
5%	120	120	120
10%	120	120	120
50%	121	120	120
90%	121	121	120
95%	121	121	121
Dry Point	...	122	
Octane Number (ASTM)	...	94	93.3

Within the usual limits of error of inspection tests, the neohexane concentrates from the laboratory, pilot and commercial plants are quite similar. Octane number and gravity lie a little on the low side for the commercial product. The purity produced commercially will, of course, be dictated to a degree by economic considerations.

The products of the process as described are essentially hydrocarbons in the motor fuel range and methane plus hydrogen gas, the yield loss inherent in the process being represented by the gases above mentioned.

From the viewpoint of the research chemist the most striking thing about this tabulation is the accuracy with which the laboratory pilot plant has predicted results obtainable in the larger scale operations. The laboratory experiments[1] were conducted at these unusual temperature, pressure, and concentration conditions in laboratory tubing with internal diameters smaller than the ordinary pencil lead. The results obtained on this small scale were faithfully duplicated in the pilot plant operations, from which of course much valuable engineering and design information was obtained. Furthermore, although the commercial plant has been in operation a comparatively short time it too has reproduced the results obtained in the laboratory experiments. As would be expected many minor improvements in the large plant are still being made and better practices in co-ordination of steps and control are being developed. A more detailed presentation is accordingly best postponed until a later date.

Neohexane Blending Properties

The blending properties of neohexane have been recently described in another paper[1] and not much can be added at this time.

Considering the two synthetic materials now available for aviation fuel, the important characteristics of each are as follows:

		Commercial Iso-octane	Neohexane
Approximate	Octane Number	90-94	92-94
	Reid Vapor Pressure (lb.)	2	9.5
	Boiling Point (°F.)	220	122

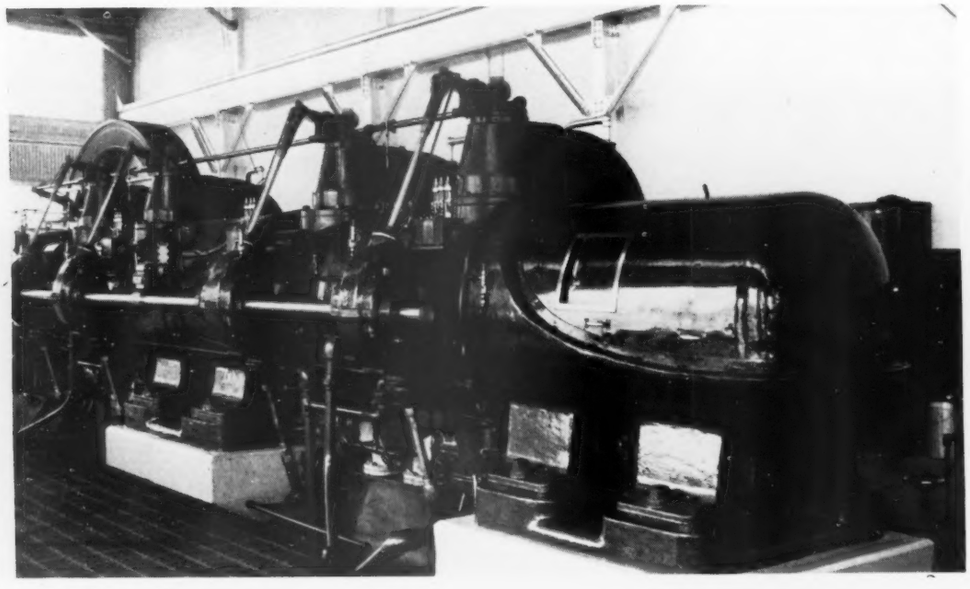
Although each of these synthetic materials has a very high octane number and exceptional TEL response, the iso-octane has too little volatility while the neohexane has too much.

It has been common practice to "volatilize" commercial iso-octane by blending with carefully selected straight run or natural gasoline. The maximum octane number attainable from natural materials is in the range of 70 to 75. It is unusual to find natural materials which will attain much more than 90 octane with 3 cc. TEL. Except for isopentane (and the lighter paraffin hydrocarbons) no other natural materials have been reported having octane numbers much over 100 with 3 cc. TEL. Thus although commercial iso-octane itself can be ethylized to very high octane numbers, the use of the relatively poor natural "volatilizer" limits the maximum octane number attainable.

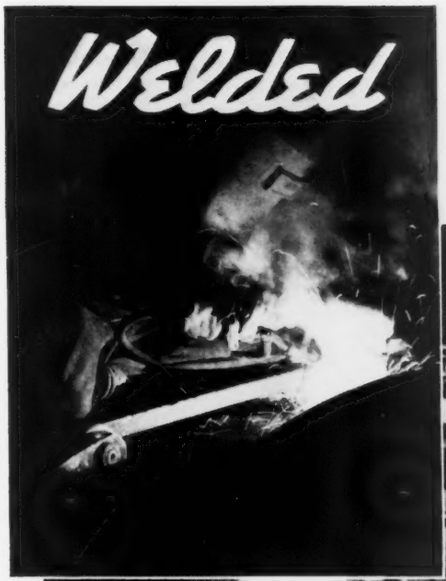
Much the same limitation, but in reverse, applied to neohexane. Neohexane would need a "devolatilizing" blending agent instead of a "volatilizer."

By blending neohexane and iso-octane each counter-

[1] Ind. Eng. Chem. 28, 1439 (1936).
[1] NATIONAL PETROLEUM NEWS, Nov. 29, 1939, p. R-502-9.



High pressures required for charging feed to the alkylation coil are produced by this 750-horsepower gas-driven pump unit



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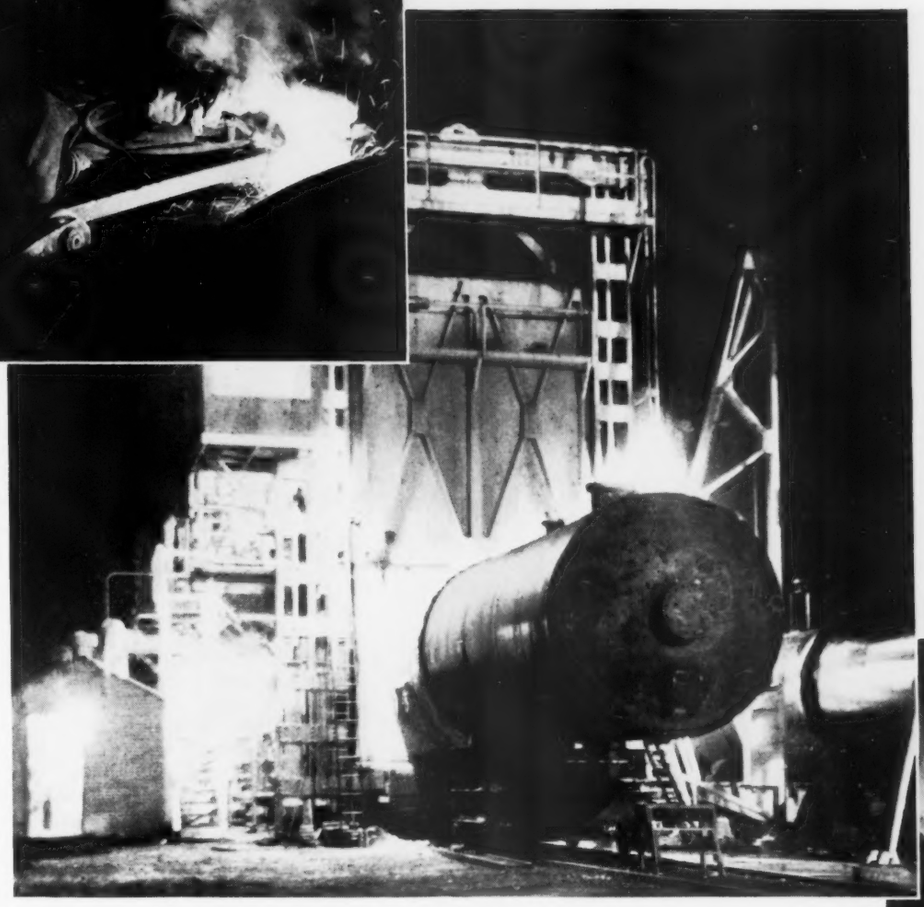

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acts the volatility limitations of the other with no reduction in antiknock value. Thus these two materials can be used to produce a balanced aviation gasoline of a considerably higher antiknock value than can be done with any other materials commercially available.

The neohexane plant is unique in itself. From the viewpoint of manufacture of advanced aviation gasoline it is noteworthy that in addition to neohexane, commercial iso-octane is made in the refinery, that isopentane of high purity is removed at the natural gasoline plants and that both straight run and natural gasoline are available. This variety of synthetic and and natural materials makes it possible to manufacture aviation gasoline to any combination of volatility and antiknock requirements from the ordinary varieties up to the 110 to 115 octane number range.

It is obvious that no project of this magnitude can be attributed to any one person such as the writer, who takes this opportunity of paying tribute to the large number of persons in the laboratory and drafting room and at the plants, who are making this project a successful one. Particularly in the preparation of this paper much assistance has been given the author by Messrs. F. E. Frey, G. G. Oberfell, and G. W. McCullough.

"Modern Pioneer" in Lubricants Honored by Committee D-2

BY any competent standard Thomas Hunton Rogers, whose picture appears on the front cover, is a serious scientist with notable achievements in the academic and industrial world to his credit. Public recognition of these achievements has come to him twice during the past six months, first as a "Modern Pioneer" in lubricating oil and motor fuel research in the celebration of the 150th anniversary of the patent system, and again this week as honor guest of A.S.T.M. Committee D-2 at its annual dinner in Atlantic City.

There is another side of his personality that also deserves immediate attention. His immediate associates know him also as a good fellow who can on occasion be very entertaining as a singer of the folk songs of his native Kentucky. In such moments his doctor's degree and his accomplishments as a scientist are likely to be forgotten under the spell of a personality that retains still some of the peculiar charm derived from upbringing in the Old South.

Born on a farm in Fayette county, Rogers lived later in Lexington and Danville. He did his undergraduate work at famous Centre College in the period between 1910 and 1914. He was evidently a good student, because when he was graduated in was "magna cum laude," with high praises. He was also active in literary work, as a fraternity brother of the Phi Delta Thetas, and even as a cheer leader for the college athletic teams.

From Centre, Rogers went on to Johns Hopkins University at Baltimore, where he acquired a Ph.D. in chemistry and a Phi Beta Kappa key, the last being the most prized piece of jewelry in the world so far as studious-minded young men and women are concerned, because it betokens selection for life membership in the oldest society of scholars in the country.

At the time Rogers finished Hopkins the Chemical Warfare Service was looking for bright young chemists and immediately welcomed him into its ranks. He thereupon started a career of inventing as one of Professor Frazer's assistants in the development of a chemical which was named Hopcalite. It was and is a catalyst for oxidation of carbon monoxide. At the time it was needed to protect sailors in gun turrets against deadly gases. It was also a protection against any possible use of monoxide gas by the Germans.

After some overseas service Rogers settled down in his first industrial job with duPont in Wilmington. In 1922 he entered Standard Oil's service as a research chemist at Whiting, where he has since worked on a variety of assignments. He became head of the analytical laboratory in 1927, assistant director of research in 1930, and associate director in 1938. He works today under Bruce K. Brown and J. K. Roberts, directing "Indiana's" chemical research.

Despite his early frivolities as cheer leader, he has piled up the evidence that he is serious business in industrial science. This fact seemed particularly clear on the night of February 20, 1940, when he was honored as a "modern pioneer." At the Palmer House before a brilliant assemblage of science and industry in stiff shirts, he and others were called to the rostrum and publicly congratulated on the part they had played in carrying industry into previously unprobed realms. His citation dwelt particularly on his development of a turbine oil that will last as long as the turbine does and for his work, with Voorhees, on butyl amino phenol as a gum inhibitor.

"The discovery has been of inestimable value in the field of petroleum cracking, preventing deterioration of the cracked motor fuels and stabilizing of gasoline," read the parchment. To the layman that may mean little, but it hardly need be explained for readers of an oil industry publication.

With Voorhees, Rogers obtained several patents relative to antioxidants in gasoline. He is the inventor of a large number of products and processes—some eighteen in all—which have been assigned to Standard of Indiana.

Naturally he is a member of the American Chemical Society, American Association for the Advancement of Science and various other learned groups, including the American Society for Testing Materials. Committee D-2 of the last named organization is about to honor him at a dinner at Atlantic City on June 26. He is also currently a trustee of the Chicago Chemist Club.

Rogers' name has appeared often on papers presented before technical associations and over articles in technical pressure, hopcalite, decolorization of oils, stability of lubri- and trade journals. He has written particularly on vapor cating oils, and gum in gasoline.

At Wilmington Rogers met Elizabeth Vinsonhaler, a graduate chemist who was librarian of the duPont Experimental Station. He was successful in presenting to her the idea of becoming Mrs. Rogers. Today, with two children they constitute a happy family, living winters in an apartment in south-side Chicago and summers in the Indiana dunes.

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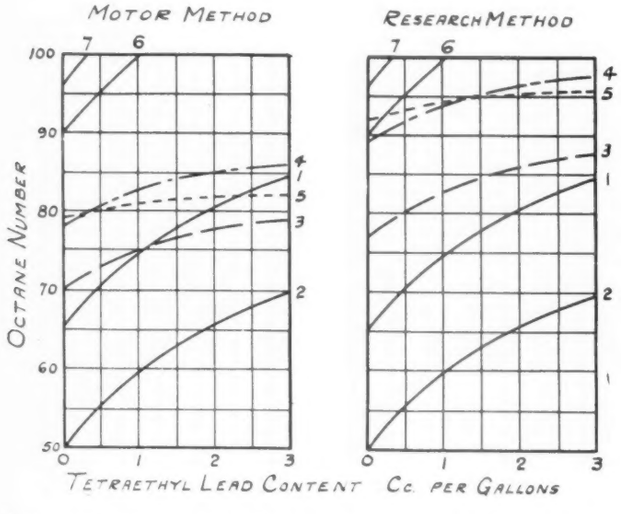
Higher Octane Fuels Opening Way For Better Engines, S.A.E. Told

"THE development of higher compression engines must depend upon improvements in the antiknock quality of gasoline, because the tendency of the fuel to knock limits the ability of the spark ignition engine to convert the heat energy of the fuel into mechanical power", William H. Hubner, Ethyl Gasoline Corp., asserted at the recent Summer meeting of the Society of Automotive Engineers. "It is not unlikely that, by 1945, road octane values will reach 95 for premium grade and 85 to 90 for regular grade fuels."

"The oil industry already has demonstrated its ability to provide higher octane fuels. Aviation fuels of 95 to 100 octane number are now being produced commercially in quantities four to five times the combined needs of the U. S. military services, airlines, and private fliers. Some of this is finding its way into premium grade fuels." Octane numbers have risen irregularly during the past ten years and will continue to rise, Hubner said, although "the increase will be gradual because automotive and petroleum technologists recognize more than ever before the value of closer co-operation."

Hubner cited statements by C. F. Kettering, General Motors Corp., that "although developments are still in the experimental stages and there are many problems still to be solved, design of future engines will be in the direction of units of smaller size, with higher compression ratios, yielding higher power output, and requiring motor fuels of higher antiknock properties. That engines can be designed to utilize the best fuel that the oil refiner is capable of producing has been pointed out in a number of recent publications," Hubner pointed out. In particular he referred to tests in which rear axle ratios had been changed to give equal acceleration at low speed so that it was possible "to increase miles per gallon by an average of 43% in the speed range between 25 and 60 miles per hour when using 95 road octane fuel at a compression ratio of 8.0 as compared to 69 road octane fuel at the original ratio of 5.25. More recently a series of tests conducted by Ethyl Gasoline Corp. in a 1940 model of the same make showed that by increasing fuel antiknock value from 75 to 90 road octane number, by raising compression ratio from 6.1 to 8.0, and by changing the rear axle ratio to give equal acceleration at low speed, the average economy on the road was improved 35% in the same speed range."



Estimated average antiknock quality of motor fuel components by the Motor and Research methods with tetraethyl lead content ranging up to 3 cc. per gallon.

1—Natural gasoline
2—Straight run
3—Thermally cracked
4—Catalytically cracked
5—Polymer gasoline
6—Alkylate
7—Commercial iso-octane

TABLE 1

Quantity of Motor Fuel Components Produced in United States

	Per Cent of Total Production		
	1930	1935	1940*
Natural Gasoline	10	7	7
Straight-run Gasoline	52	43	33
Thermally Cracked and Reformed Gasolines	38	49	53
Catalytically Cracked and Reformed Gasolines	0	0	4
Polymer Gasoline	0	<0.5	2
Alkylate and Isooctane	0	<0.1	1
Total Gasoline Production in Millions of Gallons	18,154	19,230	26,680

*Estimated, based on 1939 figures and trends in refinery practice.

TABLE 2

Estimated Average Antiknock Quality of Motor Fuel Components

	Octane Number					
	Clear		+1 cc. TEL Gal.		+3 cc. TEL Gal.	
	Motor	Research	Motor	Research	Motor	Research
Natural Gasoline	65	65	75	75	85	85
Straight-run Gasoline	50	50	60	60	70	70
Thermally Cracked and Reformed Gasolines	70	77	75	83	79	88
Catalytically Cracked and Reformed Gasolines	78	89	83	94	86	98
Polymer Gasoline	79	92	81	94	82	96
Alkylate (400° F. E.P.)	90	90	100	100	(a)	(a)
Commercial Isooctane	96	96	(a)	(a)	(a)	(a)

(a) Over 100 octane number.

It was pointed out that "these results were obtained under carefully controlled test conditions and that in normal highway service this increase might be reduced somewhat because of traffic driving. In addition to this gain in economy, high speed acceleration was very much improved and top speed was increased by more than 10 miles per hour.

"Increase in compression ratio is only one of the methods by which engines may utilize fuels of higher antiknock value", Hubner added. "In aircraft design it has been demonstrated that a supercharged engine can utilize fuel of as high an antiknock value as may be available. There is a good chance that the future may see this development followed extensively in automotive design. . . . Laboratory tests on an eight-cylinder valve-in-head engine showed that, with a 10 to 12 octane number improvement in the fuel,

it was possible almost to double the maximum horsepower by supercharging."

One of the results of raising compression ratio was illustrated by road tests conducted near San Bernardino, Cal. These tests "have shown that for a given payload, schedules could be speeded up 7-8% and fuel consumption decreased 9-17% by raising compression ratio to take advantage of an increase of eight octane numbers in the antiknock quality of the fuel."

Hubner discussed also the different octane values for a given fuel that are obtained by the several test methods that are employed. With few exceptions, he said, the Research method gives the highest ratings and the Motor method the lowest, with the L-3 ratings falling between the two but closer to the motor method. The accompanying charts show the estimated average antiknock quality of seven motor fuel components by the Motor and Research methods.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

May 21, 1940

Process for reforming and polymerization of hydrocarbons—Philip Subkow, assignor to Union Oil Co. (Cal.) Filed Aug. 12, 1935. No. 2,201,306.

Process for solvent extraction of liquid mixtures—W. J. D. van Dijck, The Hague, Netherlands, assignor to Shell Development Co. Filed July 9, 1935. No. 2,201,549.

Process for solvent extraction of liquid mixtures—W. J. D. van Dijck, The Hague, and Albert Schaafsma, Amsterdam, Netherlands, assignors to Shell Development Co. Filed Jan. 15, 1937. No. 2,201,550.

Still for re-refining used crankcase oils—W. D. Harris, assignor to Refinol Mfg. Corp., Kansas City, Mo. Filed Feb. 6, 1935. No. 2,201,558.

Processes for separating hydrocarbon mixtures—C. E. Andrews, and M. R. Fenske, assignors to Rohm & Haas Co. Filed Oct. 22, 1938. Nos. 2,201,821 and 2,201,822.

Treatment of sulfur-containing distillates—R. E. Burk, assignor to Standard Oil Co. (Ohio) Filed Dec. 23, 1937. No. 2,201,883.

Lubricant—H. E. Ballard, Berkeley, Cal. Filed Aug. 25, 1937. No. 2,201,217.

Extreme pressure lubricant—W. F. Busse, assignor to B. F. Goodrich Co. Filed Aug. 11, 1936. No. 2,201,258.

Compounded lubricating oil — B. B. Farrington and R. L. Humphreys, assignors to Standard Oil Co. (Cal.) Filed Oct. 21, 1936. No. 2,201,484.

Treatment of motor fuels—F. R. Bean, assignor to Eastman Kodak Co. Filed Apr. 3, 1937. No. 2,201,553.

Lubricant preparation—R. E. Burk, assignor to Standard Oil Co. (Ohio) Filed Dec. 3, 1937. No. 2,201,607.

Lubricating oil, and process for preparing synthetic oils—J. A. Franceway, and G. H. B. Davis, assignors to Standard Oil Development Co. Filed July 2 and Aug. 1, 1936. Nos. 2,201,767 and 2,201,768.

Process for manufacturing alkylated hydrocarbons—W. E. Bradley, assignor to Union Oil Co. (Cal.) Filed Mar. 5, 1938. No. 2,201,823.

May 28, 1940

Process for removal of mercaptans from hydrocarbon distillates—D. L. Yabroff, and E. R. White, assignors to Shell Development Co. Filed June 25, 1938. No 2,202,039.

Apparatus for contacting vapors and liquids—J. R. J. van Dongen, and W. J. D. van Dijck, assignors to Shell Development Co. Filed Nov. 25, 1938. No. 2,202,071.

Conversion of hydrocarbon oils—C. H. Angell, assignor to Universal Oil Products Co. Filed July 31, 1937. No. 2,202,076.

Manufacture of motor fuels—V. Ipatieff and R. E. Schaad, assignors to Universal Oil Products Co. Filed Apr. 18, 1936. No. 2,202,104.

Treatment of hydrocarbons—J. C. Morrell, assignor to Universal Oil Products Co. Filed Dec. 30, 1937 No. 2,202,115.

Extraction of hydrocarbon material with light hydrocarbons—W. K. Lewis, and J. M. Whiteley, assignors to Standard Oil Development Co. Filed Sept. 7, 1934. No. 2,202,389.

Method of improving knock rating of naphthas—Raphael Rosen, assignor to Standard-I. G. Co. Filed Dec. 28, 1936. No. 2,202,401.

Method of thermolyzing liquids (cracking oil)—Alfred Oberle, Washington, D. C. Filed Apr. 30, 1930. No. 2,202,463.

Continuous chilling process for dewaxing—Vanderveer Voorhees, assignor to Standard Oil Co. (Ind.) Filed Mar. 18, 1938. No. 2,202,542.

Apparatus for refining used lubricating oil—C. E. Holt, Kansas City. Filed Aug. 16, 1937. No. 2,202,657.

Lubricating composition—C. C. Towne, Beacon, N. Y., and Wilfred N. Meyer, Pryse, Ky. Filed Nov. 26, 1937. No. 2,202,128.

Lubricating oil—P. J. Gaylor, assignor to Standard Oil Development Co. Filed Apr. 3, 1937. No. 2,202,364.

Lubricant for high bearing pressures—A. J. Morway, assignor to Standard Oil Development Co. Filed Nov. 21, 1933. No. 2,202,394.

Extreme pressure lubricant—D. E. Badertscher and H. G. Berger, and F. M. Seger, assignors to Socony-Vacuum Oil Co. Filed Nov. 23, 1937. No. 2,202,641.

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INDEX TO ADVERTISERS

Refining Technology Section

(*See also page 55*)

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Alcorn Combustion Co. .....
American Asphalt Paint Co. .....
American Meter Co. .....
Badger & Sons Co., E. B. .....
Chicago Bridge & Iron Co. R-239
du Pont de Nemours & Co., E. I. .....
Gasoline Products Corp. .....
Graver Tank & Mfg. Co., Inc. .....
Gray Processes Corp. .....
Hanlon Buchanan, Inc. .....
International Petroleum Exposition .....
Jenkins Petroleum Process Co. .....
Johns-Manville Co. .....
Johnston & Jennings Co. R-243
Kellogg Co., M. W. R-232
Lummus Co. .....
Merco Nordstrom Valve Co...Insert opposite pg. R-236
Perco, Inc. R-241
Petroleum Rectifving Co. of Calif. R-235
Prichard Co., J. F. .....
Sun Shipbuilding & Dry Dock Co. R-244
Taylor Instruments Companies.....
Universal Oil Products 29

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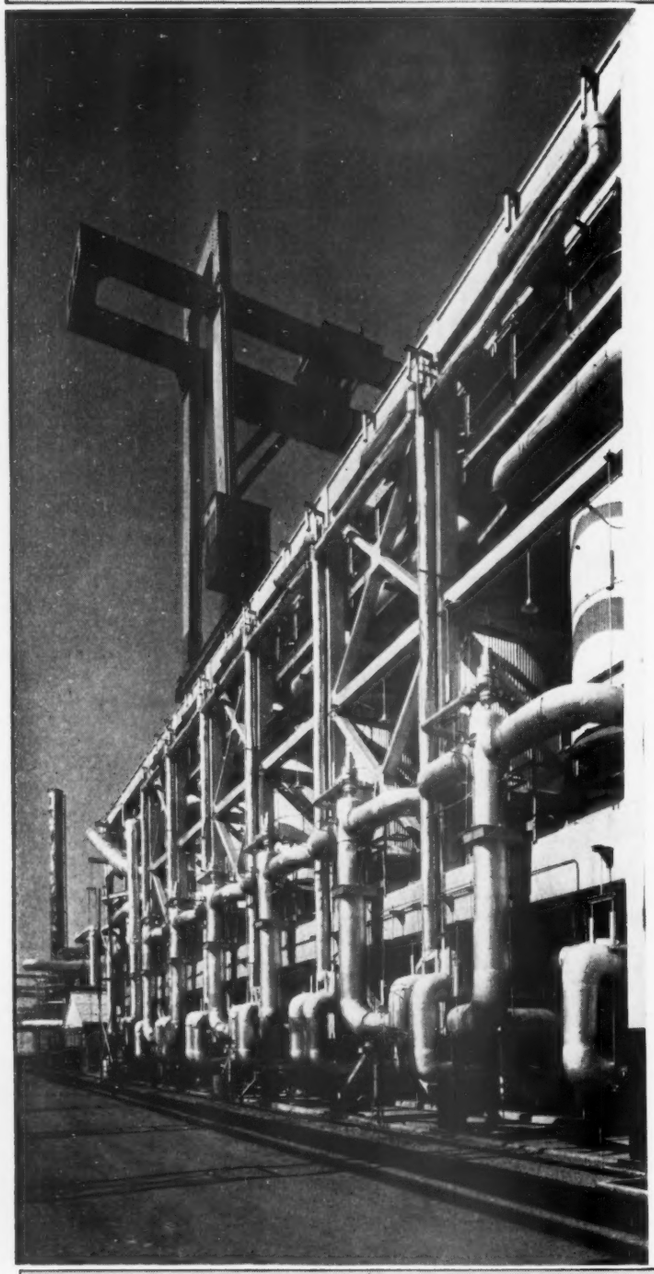

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Engineering Facts

TO HELP SELL LUBRICATION

No. 1 Article in NPN's Lube Sales Campaign

By J. N. Westsmith
N.P.N. Engineering Editor

● To provide oil marketers with the engineering reasons which they could use in building strong arguments for effective solicitation of lubrication services this summer, NATIONAL PETROLEUM NEWS has discussed the importance of regular and frequent lubrication with a large number of authorities during the past few weeks.

Lubrication and automotive engineers, research men, and even service managers of automobile car dealers, have been asked for all the evidence they had which would show what happens when motorists run at high speeds and high temperatures with inadequate or contaminated lubricants.

During this investigation, testing laboratories were visited and data observed on results obtained from road tests and analyses into the cause of engine or bearing failure under summer operating conditions.

The accumulated evidence, part of which is presented here, is overwhelming in support of the claim that regular and more frequent lubrication is necessary to provide peak performance and prevent wear on cars subjected to sustained, high-speed summer driving.

VACATION and summer driving by most of the 26,000,000 car owners in 1940 will provide oil marketers with the greatest opportunities ever to TELL and SELL the motorist on why he should "For Safety's Sake Lubricate Every 1000 Miles This Summer."

The average motorist puts more miles on his car in the period from June to October than in the rest of the year combined. He travels at higher sustained speeds for longer distances, in dust and high atmospheric temperatures—with correspondingly higher engine and running gear temperatures.

It is during summer driving conditions that the average passenger car is most likely to approximate the "heavy duty" type of operation which automotive engineers say is a leading cause of wear when the car continues to operate on contaminated lubricants.

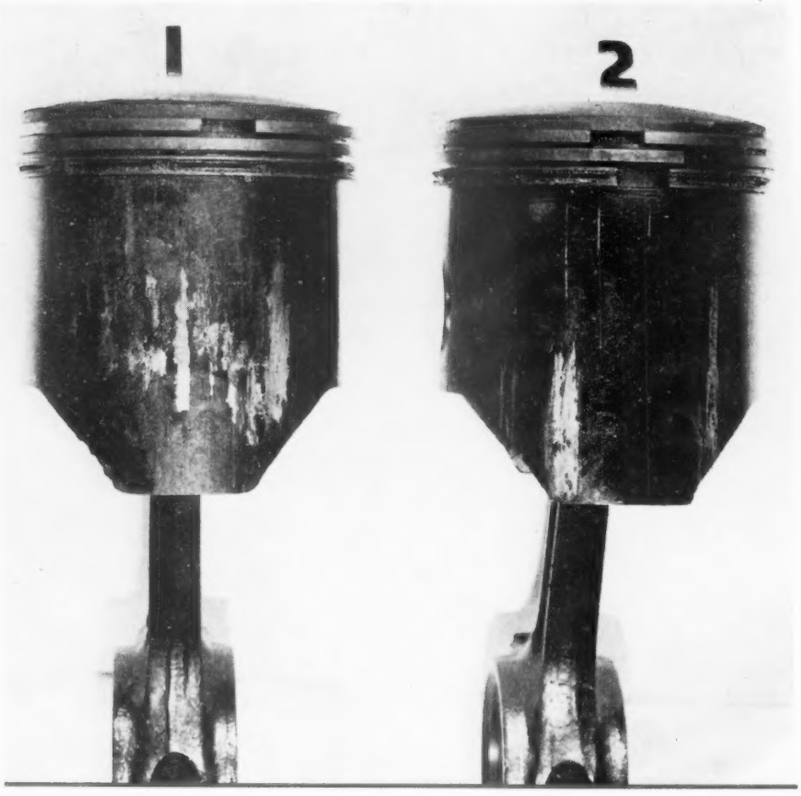
It is recognized that lubricants do not wear out, but lose their lubricating value when contaminated, from the outside, by dust, ash, soot or dirt, and from the inside, by products of combustion, or more particularly in the summer, when subjected to high operating temperatures.

There are many reasons why oil marketers should push regular lubrication at 1000-mile intervals this summer and every summer through their service stations. Some of these include:

1. Almost universally, car manufacturers recommend complete lubrication of chassis every 1000 miles.

2. A recent canvass of car dealer service departments in Cleveland found 15 out of 18, recommended 1000 miles of operation between crankcase drains, despite longer intervals nominally specified by car maker.

3. Oil company surveys of motorist buying habits found 75% of car owners accept need for chassis lubrication and oil drains at 1000 mile intervals and



Pistons from cylinders 1 and 2 of an engine in which lubricating oil deteriorated under high-speed driving conditions so rapidly, in a test, that engine froze. According to the rating system described in this article, the accumulation of varnish on skirts of these 2 pistons would be rated at 10 plus. This illustrates ring slots nearly filled with accumulations from oil. White spots show where piston froze to cylinder walls

many believed their cars were serviced this often.

4. Laboratory and road tests show continued use under severe summer driving conditions of lubricants much in excess of 1000 miles, exposes chassis bearing surfaces to excessive wear and rapidly accelerates the accumulation of contaminants in the engine oil.

5. Other tests demonstrate loss in power, performance and economy when the lubricating value of motor oil is impaired by too-long use of contaminants during high-speed operations.

6. Oxidation sludge in motor oil is formed most readily at high crankcase and engine temperatures, promoting formation of "varnish" and lacquer-like deposits, which stick piston rings, coat pistons and plug oil circulation channels. Tests show lubricant temperatures in engines increase approximately 10° for every 10 miles per hour increase in car speed above 50 m.p.h.

7. Lubricants are cheaper than metal and cheaper than poor performance. Regular lubrication at 1000 miles replaces contaminated grease and oil, in most cases, before the critical point is reached; will save the motorist on repair bills; and will give him more satisfactory performance.

Failure of many service station attendants to solicit more than a small fraction of their customers for regular lubrication at 1000-mile intervals, is indicated as a primary reason why mileage between services has been extended in recent years. One survey showed only 6% of motorists in one area were asked to buy lubrication.

IT is perhaps fortunate in such a selling program that the motorist is made conscious of the need for chassis lubrication at or around the 1000-mile mark by squeak or hard riding, and steering which protest lack of lubrication.

However, going on the theory that what they can't see or hear won't hurt them, and being not too sure, unless it is pointed out to them, of the last time the crankcase oil was drained, most motorists are inclined to put off the drain period. This is so, despite the fact that 3 out of every 4 of them accept the need for a drain every 1000 miles.

Did someone ask, "Why select an interval at 1000 miles? Why not 800, 1250 or 1500 miles?" It is true that some cars driven at relatively low speeds over paved highways in areas where dust conditions are not severe, could use motor oil for longer periods without excessive damage. But other cars, driven at extremely high speeds, may need draining even at 800 mile intervals to prevent damaging accumulations of oxidized materials, sludge, and even varnish in the engine.

It is not possible for the service station operator to perform a laboratory analysis to determine contamination of the engine oil. The theory has been exploded that appearance of oil on the "stick" is an infallible gauge of engine conditions. As will be shown later on in this article, investigation has found clean oil in dirty engines and dirty oil in clean engines.

ONE thousand miles between drains is a convenient measure, acceptable to most motorists and tieing in with the recommended interval for chassis lubrication. Moreover, it is one that is now being used by an unexpected number of the oil marketer's biggest competitor for lubrication business: the car dealer. One zone manager for a medium priced car said some 70 dealers in the Ohio territory are recommending 1000-mile oil drains although the factory recommendation is 2000 to 3000 miles and 14 other car dealers contacted, followed the same practice.

One service manager for a prominent car dealer in Cleveland said it is axiomatic in the automobile industry that 80% of all mechanical failure in automobiles is due to inadequate or improper lubrication. This includes not only failure of engine bearings

and other internal parts, but also chassis bearings and running gear.

Improvements in automobile engines during recent years have been in the direction of higher compressions—4.86 to 1 in 1928, 6.40 to 1 in 1940—to higher revolutions per minute at maximum horsepower—2860 in 1928, 3567 in 1940—and to closer clearances between piston and cylinder and in bearings.

While this trend in design has greatly increased performance and decreased oil consumption, it has in many instances put a greater burden on a thinner film of oil protection. Reduced tolerance between bearing surfaces to control higher pressures has made the use of lower viscosity oils necessary to improve lubrication of bearing surfaces, particularly of the upper cylinder walls.

THE lighter oils, however, have less resistance to oxidation and this becomes an important factor under the higher engine and crankcase oil temperatures of today's summer driving.

The extent to which crankcase oil temperatures increase at higher driving speeds was shown by William S. James, chief engineer of Studebaker Corp., before the annual meeting of the Society of Automotive Engineers in Detroit, Jan. 15 to 19. The accompanying table, No. 1, shows rise in engine lubricant temperatures for typical 1940 cars at speeds of 50, 60 and 70 m.p.h.

TABLE I

Lubricant Temperatures in Engines of Typical 1940 Cars

Road Load & Corrected to 100° F. Air Temperature

(Society of Automotive Engineering Paper Detroit Meeting January 15-19, 1940 by William S. James)

Car	Engine Speed (MPH) 50	60	70
A	212	222	234
B	222	230	250
C	245	261	281
D	192	212	241
E	186	200	220
F	...	...	...
G	232	244	266
H	172	183	202
I	163	174	187
J	220	232	245
K	184	193	206

For All Cars Tested

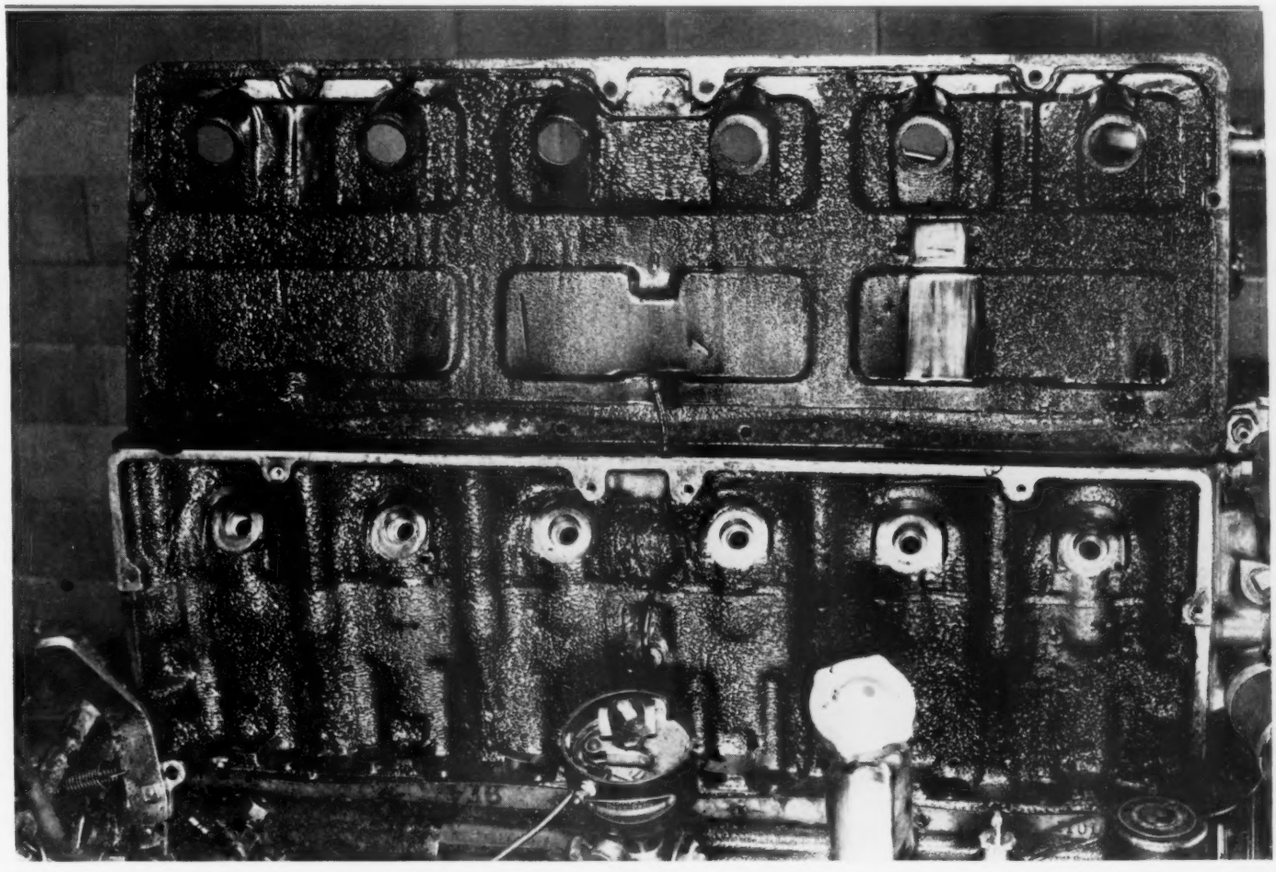
	Engine Speed (MPH) 50	60	70
Min.	163	174	187
Max.	245	261	281

These higher crankcase temperatures, at speeds maintained by many motorists during summer driving, are significant to both the car owner and oil marketer in view of the tendency of oils to oxidize much more rapidly and accumulate contaminants when subjected to higher temperatures. Experimental research also shows badly oxidized oils accelerate the formation of "varnish" or lacquer-like deposits at higher temperatures.

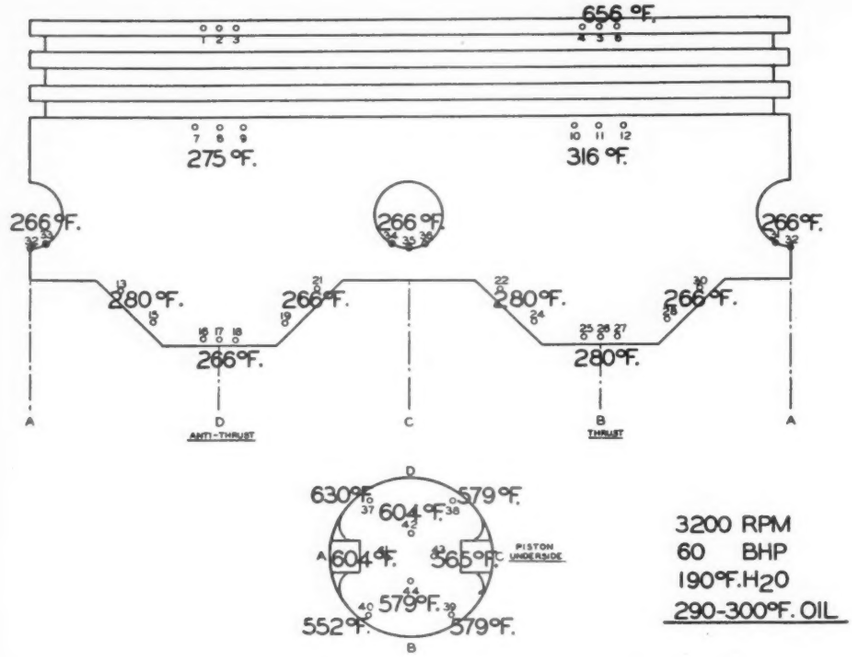
Tests run by one investigator established crankcase oil temperatures of 220 to 240° F. as the critical range, within which varnish starts to form in the gasoline engine. This would indicate that at least four 1940 cars would be in the danger zone at 50 m.p.h.; 5 at 60 m.p.h. and 7 of the 11 at 70 m.p.h.

AUTOMOTIVE engineers also point out that sludge formed by high temperature oxidation doubles in quantity with every 10° rise in temperature of the oil. Added to this, is the much more severe oxidation around the hottest parts of the engine, with the problem becoming acute in some engines.

High ring-belt temperatures (temperatures around piston rings and the surfaces between these rings) tend to crack the lubricating oil, to varying degrees depending on driving conditions. Much of this material formed by oil deterioration—carbon asphaltenes, and so on—is flushed down into the crankcase, making it particularly important that the accumulation, plus dust, metallic particles, blow-by



High temperature sludge accumulations in the push-rod compartment of a modern automobile after 1150 miles of high-speed test driving, in which the crankcase oil temperature was 290°. Illustrates use of oil in engine too long and deteriorated under high-speed driving. Thickness of sludge is indicated by smear on right of compartment cover below second sparkplug hole. Sludge rating 3.17



Crankcase oil striking the hot underside of pistons has been found an important cause of the so-called coffee ground type of sludge which clogs oil oil pump screens, and oil lines. Above diagram shows typical piston temperature when the cooling water was 190° and the crankcase oil was 290-300°

materials, or other contaminants be drained.

It has been found that oil oxidation due to crankcase temperature is greatly accelerated at speeds of upward of 55 m.p.h., another automotive engineer says. Under these conditions, oils tend to thicken and the cracked products which have been flushed down from the piston accelerate the rate of oxidation in the crankcase.

WHEN a car has been operated 1000 miles at high speeds, the accumulation of flushed down products in the average oil may become excessively corrosive; sludge may begin to plug up screens and oil circulation lines, or lacquer may begin to show on the piston.

One purpose of a regular 1000-mile drain period is to avoid accumulation in the crankcase of these detrimental carbonaceous materials; accumulations which if not drained out will contaminate fresh oil.

With the usual crankcase drain, approximately 1 quart of lubricant remains in the engine not equipped with an oil filter, and about 2 quarts where a filter is used. If the oil is allowed to become badly oxidized, the trapped oil gives the new oil a head start toward oxidation. Cases have been known in which a SAE 20 oil has been raised to SAE 30 or even SAE 40 when put into a crankcase from which a contaminated oil had been drained. One engineer said: "It is like putting a quart of poorly refined" steam-refined stock into the new oil.

In general, there are 2 types of sludge which threaten not only engine life, but also operating performance of cars driven at sustained high speeds in hot weather: 1. The so-called solid or "coffee grounds" sludge; and 2. The "taffy" or "varnish"-like deposits. Emulsion type sludge, resulting when crankcase oil is contaminated by relatively large quantities of water is usually a winter-operating condition and not a factor at high speed operations—provided, of course, that winter contaminated oil is thoroughly drained in the spring.

"Coffee-ground" sludge is a result of oxidation and "cracking" of the motor oil, usually by high temperature operation and is characterized by large amounts of oxidized oil and carbon.

Although some of the carbon comes down from the combustion chamber with the blowby gases, most of it is formed on the under-sides of pistons—when the oil comes in contact with hot spots of the metal—and then flakes off into the motor oil.

In discussing the solid type sludge, which was described as a relatively heterogeneous mixture of materials, one group of research engineers said:

"A number of factors may contribute to its formation. Carbon and other products of incomplete combustion of fuel and lubricating oil may be blown down past the piston rings from the combustion chamber to make their appearance as sludge in the lubricating oil.

"Similarly, carbonaceous deposits built up, particularly in the piston ring zone, as the result of high temperature decomposition of the motor oil, may become detached and find their way into the crankcase oil. Furthermore, carbon deposits, formed on the undersides of pistons as the result of baking thin films of oil at high temperature, often flake off and fall into the crankcase.

"Finally, sludge may be formed by direct oxidation of the crankcase oil or by reaction of this oil with contaminating materials from other parts of the engine. Many opportunities for this deterioration are afforded since the oil is practically always in intimate contact with air, and is circulated to many parts of the engine which reach extremely high temperatures.

"IN addition to being in contact with air, some portion of the hot oil is always in contact with a variety of metals, most of which are excellent oxidation catalysts under the proper conditions.

"The mechanical condition of an engine has considerable bearing on the quantity of contaminating materials which will find their way into crankcase oil and appear as sludge. In the new engine, where a good piston seal is maintained, little opportunity is afforded for oil to be carried into the combustion chamber or for soot and carbon to be blown down past the rings. However, oil subjected to longer use in a new engine may deteriorate more in a given mileage.

"As the engine becomes older and more worn, oil consumption increases, and progressively more contamination as the result of blow-by takes place."

Oxidized products, soluble only in hot oil, are also formed under high temperature conditions and settle out

Anxious to make more

> Things are going very nicely The plant is functioning well.... What I am anxious to thrash out with you is the possibility of still more increasing our output.... Also, I am very anxious to see you about a polymerizer

That's a letter from a Mid-Continent refiner to Universal and he is talking about his Dubbscracking plant The unit is "functioning well," running for all it's worth and making high yields Still he can't make enough Dubbs-cracked gasoline to go around

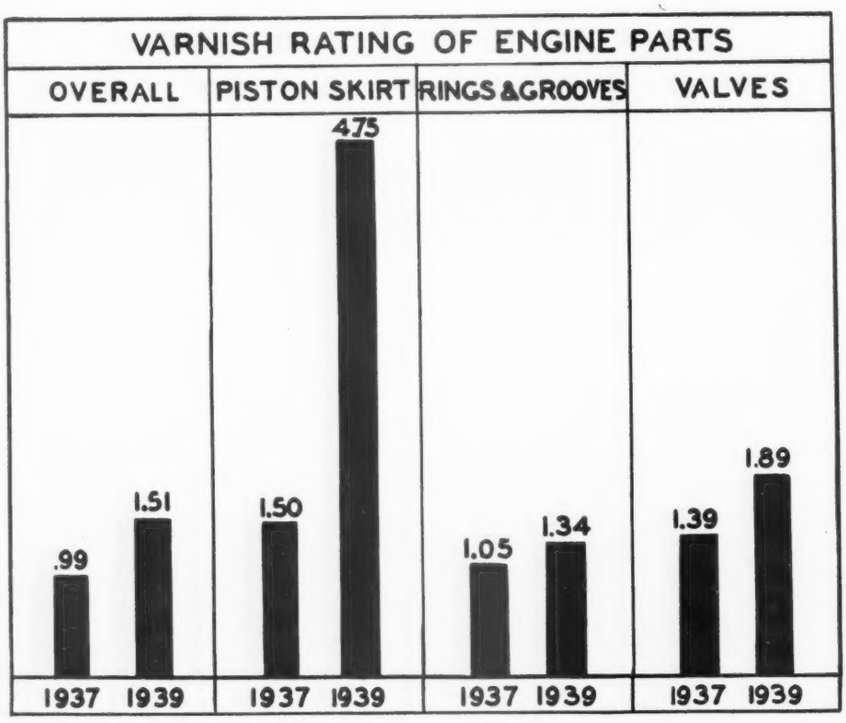
No wonder he wants to increase his cracking capacity and add a U. O. P. catalytic poly unit

A good many refiners are in the same position and are doing likewise

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Fig. 1



Comparison of varnish formation in a 1937 vs 1939 automobile engine of same make. Test covered approximately 1250 miles—brake horsepower 60, 3200 RPM. Same oil used in both engines. Crankcase oil temperature 290° F. Chart is based on a system of inspection as to extent of varnish formation, in which perfect condition is assigned a value of zero, while a value of 10 is assigned to an engine part in which the varnish condition is so poor as to seriously affect operation of the engine

in the cooler parts of the system. The sticky nature of these products causes them to act as a binder for any carbon, dirt, or metal particles present. The resulting sludge may clog oil lines or the oil pump screen. Also, it is an active catalyst, causing more and more rapid deterioration of the remainder of the motor oil.

CHANGING the oil at 1000-mile intervals during the months of high-speed driving and high temperatures, will prevent excessive accumulations of this sludge, authorities say.

It has been found that under certain high-temperature conditions, even oils with high resistance to oxidation, will form the so-called varnish deposits if the operation is severe enough and if the oil is used long enough without being changed, especially if additions are infrequent. Research on this problem has indicated varnish is much more likely to form with low viscosity oils than with heavier oils. But low viscosity oils have advantages which make them desirable to use, nonetheless.

Tests have also shown that in the case of some automobiles, the engine models for successive years have become increasingly severe in their tendency to form varnish. For example, using the same oil, varnish formation on a 1939 engine was substantially higher than on a 1937 model of the same make. Fig. 1 shows the result of these tests.

The 2 engines were practically the same except for minor mechanical improvements. However, the 1939 model showed considerably better fuel economy which, to the investigators, meant higher piston temperatures and explained the greater tendency for the oil to oxidize and form varnish.

It is indicated that any oil will produce varnish under certain operating conditions, although there are wide differences in the varnishing tendencies of different oils. These conditions are most likely to occur in the higher temperatures and speeds of summer driving. Some engines have greater susceptibility to the formation of varnish, and others to the formation of other types of sludge.

Table No. 2 shows the effect of time on engine deposits of varnish. In both tests, the crankcase oil temperature was 290°F. Appearance of the overall engine and the piston skirt are expressed as a numerical value called a demerit rating. This value is based on a system of inspection by the testing staff whereby perfect condition is assigned a value of zero, while a value of 10 is assigned to a part in which the condition is so poor as to seriously affect operation of the engine. The higher the Demerit rating, the poorer the condition.

TABLE No. 2

Oils	Miles without drains	Demerit Ratings Overall Engine	Demerit Ratings Piston Skirt Varnish
A. SAE 10.....	1250	.99	1.50
SAE 10.....	2500	2.02	6.00
B. SAE 10.....	1250	.85	1.00
SAE 10.....	2500	1.78	8.00

Evidence points to the fact that engines which have normally high crankcase temperatures are among those having varnish trouble when operated at high speeds in hot atmospheric temperatures.

Another authority says: "There is no exact calibration of engine wear from varnish formation, unless the car's performance finally falls to such poor level that a repair job is necessary. But it happens more often that performance is less efficient over a long period of time without the motorist knowing the actual cause."

STICKING of compression rings in pistons and accumulation of sticky carbon in wiper ring slots are conditions that have gradually increased with the trend toward higher compression pressures.

With higher engine heat even good quality lubricating oils tend to deteriorate and sticky by-product may under some conditions form a carbon mass behind compression rings and in oil ring slots. It is pointed out that carbon-clogged wiper rings are serious, but even more so is the sticking of compression rings that are forced out against the cylinder walls so that they become cutting tools and result in excessive wear of cylinder walls.

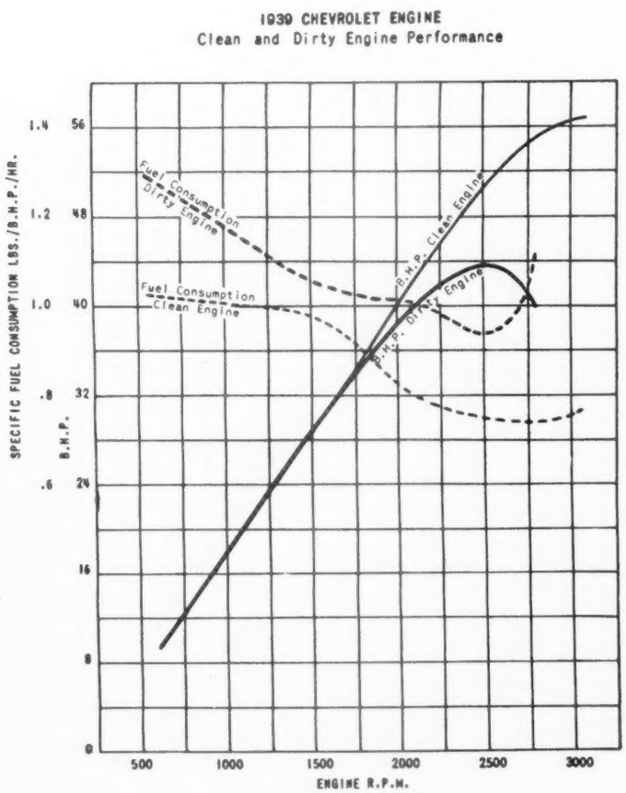
Tendency of an engine to form sludge in the crankcase oil has been found to increase rapidly as ring and bore wear increases and as rings are stuck and clogged. Unless sludge is removed before it reaches a critical stage, it will clog oil channels of the

Nine of Ten Cars to Finish Indianapolis 500-Mile Race Used CHAMPION SPARK PLUGS

Again, as in 15 previous years, a Champion-equipped car won the Indianapolis Memorial Day Classic. Wilbur Shaw, driving a Boyle Special, won the 500-mile race for the third time. After the race Shaw commented, "The Champion spark plugs in my Boyle Special functioned perfectly throughout the entire race—never missed firing once."

USE THE SPARK PLUG CHAMPIONS USE

Fig. 2



Research evidence of higher fuel consumption and loss in power at higher speeds when engine is dirty from contaminated motor oil. At 2750 RPM, this chart shows effective brake horsepower with dirty engine is 41, compared to approximately 54 with clean engine. Specific fuel consumption is indicated as 1.05 lbs. per BHP/HR with the dirty engine, and .75 lbs. per BHP/HR with the clean engine, at this speed

circulating system and the oil pump screen.

Another contaminant that adds to the problem of engine wear in the summer and helps produce the metal particles which act as a catalyst in promoting further deterioration of the oil, is dust and dirt breathed into the engine from the outside.

It is estimated that a cubic mile of air in the average large city contains 1.36 tons, or 2720 lbs. of dust, with the amount ranging upward of 6 tons per cubic mile in some areas.

The amount of dust which actually reaches the engine—combustion chamber and crankcase—depends on a number of factors, including: 1. Whether the car has an air cleaner. 2. Whether efficiency of the air cleaner is sufficient to catch most of the dust. 3. Cleanliness, not only of the carburetor air cleaner, but also of the cleaners in the crankcase ventilating system.

Importance of air cleaners and their maintenance in preventing engine wear was discussed by Max M. Roensch, Chrysler Corp., (NATIONAL PETROLEUM NEWS, April 3, 1940) "It has been our experience," he said, "that the greatest single cause of engine wear is air-borne dust. This problem exists both in the city and in the country and on both paved and gravel roads."

As an example of how engine wear is accelerated under severe dust conditions, it was found a fleet of dump trucks—not equipped with air cleaners—showed rings worn to one-third of their original thickness, and the cylinders worn more than .020 in. in 10 days. Equipped with air cleaners, and operating in the same service, the wear was reduced to less than .001 in. during 4 months of operation.

Where cars are operated in extremely dusty areas, such as through a dust storm, authorities agree the crankcase oil should be drained immediately and the air cleaner thoroughly cleaned. In one instance, it was found that 2 cars, traveling a distance of 200 miles through a dust storm, picked up approximately 2 lbs. of dirt in the air cleaner.

Dust conditions in this case were so severe that the windshields were pitted and had to be replaced, and a new paint job was necessary. Even with less severe conditions, but over a long distance with less efficient cleaners, accumulation of dust may be indicative of oil contamination.

It does not follow that changing the crankcase oil will prevent or reduce engine wear on cylinders by dust taken into the carburetor. This dust causes wear before it reaches the crankcase. However, with the conventional type of crankcase ventilating system, there is the problem of dust breathed into the crankcase.

It is important for the car owner to know that while contaminated lubricants may not cause absolute mechanical failure over even an extended period, their continued use will result in much lower performance and operating efficiency.

One prominent automotive engineer points out that today's engine—with its alloy bearings and close-fitting metal parts to take care of higher engine speeds and increased bearing loads—is more sensitive to inadequate or improper lubrication.

Built with finer adjustments and designed to give greater economy and higher output of power, the engine is declared more critical to factors effecting performance. Efficiency and performance is easily upset by pistons, rings, valves and oil channels clogged or gummed up with accumulations of sludge, varnish or other contaminants.

IN the experience of this investigator, decreased performance in many of today's cars is noticed at around 10,000 or 15,000 miles, compared to a distance of twice this experienced without trouble in years gone by.

What happens to specific fuel consumption and brake horsepower when the engine becomes dirty inside, with lacquer and carbon deposits on pistons and valve stems, was illustrated by C. M. Larson, chief consulting engineer, Sinclair Refining Co., in a paper presented at the 1940 summer meeting of the Society of Automotive Engineers at White Sulphur Springs, West Virginia, June 9 to 14.

Fig. 2 shows graphs of separate test runs made on a clean and dirty 1939 Chevrolet, using the following test conditions:

Speed, 3150 R.P.M. (60 M.P.H.)
Oil temperature 280° F.
Jacket water, 200° F.
Load, 15 to 25 HP (This load varied over this range to maintain a temperature of 500° F. at the center of the piston.)

Oil Consumption—The engine was maintained in such mechanical condition that oil consumption was approximately 1 qt. per 500 miles.

Length of test—4000 miles (67 hours) unless the oil oxidized so badly that the test had to be stopped at some lower mileage.

The engine was equipped with babbitt steel-backed bearings.

Mr. Larson said there was a noticeable drop in performance with higher speeds with the dirty engine. This is indicated by the falling off in brake horsepower of the dirty engine at an engine speed of 1750 R.P.M. It should be noted that specific fuel consumption (pounds of fuel per B.H.P. per hr.) of the dirty engine is consistently higher than for the clean engine, and rises rapidly as the Brake Horsepower of the dirty engine falls off above 2500 R.P.M.

Improved gasoline has helped make the racing speed of yesterday the safe open-road speed of today!

▶ Did you know that you could credit the modern gasoline you sell for much of the additional power and performance of modern cars? That's because *engine* improvements are often made possible by *gasoline* improvements.

Fuels and engines progress together. In fact, today's high compression engines would not run efficiently with yesterday's gasoline, because they're designed to take advantage of high anti-knock fuels. The spark adjustment on modern engines permits a mechanic to tune them up for *extra* power and economy with your best gasoline.

Why not explain this to your customers? Tell them how important a part the high anti-knock fuel you sell plays in the performance of their cars. The facts in the chart below will be easy for them to understand.

THE HIGHER THE ANTI-KNOCK QUALITY OF GASOLINE...
THE FARTHER A MECHANIC CAN ADVANCE THE SPARK TOWARD MAXIMUM POWER
(without knock or ping)
AND THE BETTER THE PERFORMANCE OF THE CAR
HERE ARE THE SIGNS OF IMPROVED GASOLINE
BETTER — This sign on a pump means that lead (tetraethyl), a liquid, has been added to the gasoline to improve its anti-knock quality. "Leaded" gasoline is sold by dealers throughout the United States and Canada.
BEST — The "Ethyl" emblem means that: The gasoline contains enough lead (tetraethyl) for highest anti-knock, is your finest motor fuel, and the engine's spark can be advanced closest to the point of maximum power and economy.
THE BETTER THE GAS—THE BETTER THE CAR

ETHYL GASOLINE CORPORATION, *manufacturer of anti-knock fluids used by oil companies to improve gasoline*

'Free' Burner Service Disappearing As Fuel Oil Margins Narrow

"FREE" servicing of domestic oil burners by fuel oil marketers, to hold the home owner's oil business, is being discontinued in many sections of the East. However, the practice still prevails in some Midwestern cities. This is revealed by a survey of fuel oil marketers recently completed by NATIONAL PETROLEUM NEWS.

The survey showed that the average charge for an annual burner service contract throughout the East and the Middle West generally ranged between $10 and $15. These service contracts include inspection, oiling and adjusting the burner for the fall start-up, and emergency call service during the heating oil consuming season. Many contracts also include summer furnace cleaning within this range of charges.

The entire range of charges which heating oil distributors reported for servicing burners was from $5 for burner start-up and limited call service, to $35, which included summer furnace cleaning, fall start-up and insurance against failure of parts.

The outstanding reason for the present trend on the part of oil companies to charge for burner service has been the gradual reduction in the distributors' margins on heating oil and price wars in some sections, which have reduced the margin temporarily to the point free servicing had to be discontinued.

While gross margins of 3c and more per gallon for marketing heating oils prevailed in the East early in the 1930s, the past 5 years have seen a slow, but certain, narrowing of the spread between the home owner's buying price and the marketer's cost.

To cite examples, in New York City and Boston, the spread between the posted tank wagon and the low of open-market wholesale prices of No. 2 burner fuel ranged between 1.35 and 2.25c a gal. during the past 5 heating seasons. That is to say, the spread at times reached as low as 1.35c, but never did exceed 2.25c. While these points are the largest individual markets for domestic burner oil in the country, price trends are typical of other areas. In fact, much narrower spreads have prevailed in other sections of the east during the same period.

With the narrowing of the profit margin in the sale of fuel oil—and an occasional price war thrown in — "free" service has assumed in the past few years an importance it did not command in the days when the larger per-gallon profit made fuel oil volume the main consideration.

Fuel oil marketers who have studied the overhead involved in providing burner service, report it costs from $5 to $10 per customer, per year, depending on the type of service given, and the marketing area involved.

Service Costs 0.25 to 0.5c Per Gal.

Service costs of under $5 have been reported by some eastern marketers, but these do not include the type of service work which is competitive with paid burner maintenance.

The national average fuel consumption of a domestic oil burner is roughly 2000 gallons during a normal northern heating oil season. At a cost of $5 to $10 to provide "free" maintenance for the burner, it means that the fuel oil marketer gives away 0.25 to 0.5c of his gross margin on every gallon of fuel sold on this basis.

Condemning the practice of giving "free" service before the annual meeting of the Fuel Oil Distributors Assn. of New Jersey at Asbury Park, N. J., April 12, Frank W. Lovejoy, New York, of Socony-Vacuum Oil Co. told marketers that it cost from 0.23 to 0.5c per gal. for burner service. These figures, Mr. Lovejoy said, are "the result of actual experience."

The total cost of marketing a gallon of fuel oil today has been variously estimated at from 1.25 to 1.75c per gal. by some eastern marketers. These figures include administration, accounting, selling, handling, storing and delivery costs, and credit losses.

At the New Jersey meeting, Mr. Lovejoy stated that delivering, selling, accounting and administration in fuel oil marketing will average about 1.55c per gallon. Present margins on fuel oil, he told marketers, will not let the marketer give "free" service and show a profit.

This statement is borne out by the reports of marketers, who say the expense in providing "free" servicing of the home owners burner will often result in the difference between a profit and a loss to the supplier. A supplier with a cost of 1.5c per gal. to market fuel oil, must have a gross margin of 1.75 to 2c to give "free" service and not lose money on each gallon of fuel oil handled by his plant, these marketers say.

The problem of "free" burner service looms large in the consideration of eastern marketers as they view the probability of continued narrow spread, and maybe even still lower margins.

ON this point, Mr. Lovejoy in his talk before the New Jersey group warned marketers that the days of long margins on fuel oils had passed, and predicted that the industry would never again see 3, 2.75 or even 2.50c spreads.

Factors which marketers see as tending to peg margins at present levels or cause them to be narrowed still further are: the uncertainties of tanker rates, which on June 19 were about 30c higher that at the same time a year ago; 2 sets of "top" prices for consumers and distributors next year; an expected increase of 12% in burner installations, with less heating oil in storage; as well as the growing recognition that fuel oil, which has progressed from a by-product to a

"I built my business the Cities Service way!"

WRITES THIS ENTHUSIASTIC PITTSBURGH DEALER WHOSE STATION TRAFFIC IS UP 800%

"I started from scratch in a district crowded with gasolene stations" writes Bill Olen, Pittsburgh dealer, "and from the first I went Cities Service all the way. The Cities Service neighborhood solicitation technique helped me obtain customers. I make constant use of Cities Service pamphlets and direct mail. The Cities Service promotion man calls regularly, and his assistance is invaluable. And I think so much of our educational meetings that I temporarily close my station so that we can all attend. All this support, plus the use of such Cities Service quality products as Koolmotor Gasolene, Cities Service and Koolmotor Motor Oils, and Trojan Lubricants, has resulted in my now having eight times the number of customers I had three years ago."

IT PAYS TO SELL CITIES SERVICE PRODUCTS

and Cities Service helps you do the selling!

ALL THIS SUPPORT IS YOURS WHEN YOU SIGN WITH CITIES SERVICE

● **Exclusive Features**—In addition to the products mentioned above, Cities Service offers such unique service features as the Cities Service Power Prover, Ride Prover and Heat Prover and such specialties as Cisco Solvent and Cisco Pep—all business builders and real money makers.

● **Radio**—The Cities Service Concert, radio's oldest program, thrills millions of listeners every Friday night. Lucille Manners, Frank Black, Ross Graham and Ford Bond help you sell Cities Service products.

● **Magazines**—Cities Service's 1940 theme "an extra year of youth" for your car reaches *additional* millions of readers in the Saturday Evening Post and other well-known publications.

● **Outdoors**—They read while they ride—and Cities Service billboards and posters attract customers at the ideal time—right when they're on the highway.

● **Direct Mail**—Cities Service's "Business Builder" is a year round direct mail campaign that has everything—looks, hooks and selling appeal.

● **Cash in**—Think what this complete selling program can mean to your business. Why not get all the details on this money-making merchandising? Wire, write or phone to the nearest office listed below.

CITIES SERVICE OIL COMPANIES

CITIES SERVICE OIL COMPANY— Chicago, New York, Cedar Rapids, Boston, St. Paul, Grand Forks, Kansas City, Fort Worth, Oklahoma City, Milwaukee, Cleveland, Detroit, Syracuse, Harrisburg.

CITIES SERVICE OIL COMPANY, LTD.— Toronto, Ontario.

ARKANSAS FUEL OIL COMPANY— Shreveport, Little Rock, Jackson, Miss., Birmingham, Atlanta, Charlotte, N. C., Nashville, Richmond, Miami.

primary industry product, must be expected to bear an increasing proportion of the industry's cost structure.

Except for a brief respite during the NRA code days when "free" burner service was prohibited, it has remained one of the principal problems of fuel oil distributors for the past 10 years. During the days of the code, the oil industry was prohibited from rendering service at under $10 per year, plus a reasonable charge for parts replacement. This code rule was later amended to read that the industry charge at least the minimum established in the code for the burner industry.

After the death of the NRA, the giving of "free" service again spread throughout many sections of the East, fanned by the relatively long margins in effect at the time. Of late, however, the narrowing of margins, occasional price wars, the education of more marketers as to their actual costs, and the uncertainty in the fuel oil market picture have combined to bring about the gradual return to a standard charge for burner service in many of the larger eastern fuel oil marketing areas.

Too, the general practice of charging the public for service on refrigerators, washing machines, automobiles, and other household equipment has helped oil companies to get away from giving "free" service on oil burners, some marketers add.

Commissions Found Related To 'Free' Burner Service

While marketers replying to NPN questions, with only one exception condemned the practice of giving service, which, like Topsy just seems to have grown up within the fuel oil marketing industry, they attribute its cause to various factors.

In several sections of the country, where "free" service is still a problem, the payment of commissions by the oil marketer to oil burner service companies, who then recommended the marketer's oil, is cited as helping to develop "free" servicing of burners.

The secretary of one of the metropolitan fuel oil associations in the Middle West, reports that the paying of these commissions and the rendering of free oil burner service "have a direct relation to one another.

"A marketer who is not paying commissions has a difficult task when asked by a customer for a dependable source for burner service. If he recommends a burner service concern which is getting commissions from another oil company, he runs the risk of losing the oil business to that company because the serviceman, having an 'axe to grind,' will try to secure the oil business — very often attributing the burner trouble to the 'bad oil.' The result is," this association secretary adds, "the marketer is forced to employ help capable of diagnosing the cause of burner trouble, and it is then a very close step to servicing burners, and 'try and collect' for most of it."

Another side of the picture, however, was pointed out in the NPN survey. It was cited that the burner service companies—not connected with an oil marketer—were forced to solicitate commissions for oil sales because the "free" service rendered by some fuel distributors made it impossible for them to exist on servicing burners alone.

Answers to the survey also indicate that the growth of "free" servicing, was, to quote the secretary of another mid-western metropolitan oil association, the direct result of "screw driver and pliers services for which no charge was made."

"Practices such as the above seem to resolve the matter into a question as to what is and what is not 'free' service." However, this association executive adds, "from season to season, the 'main-liners' in the business are able to collect for capable service rendered and almost invariably and consistently for parts."

Summary of the rise of the problem of "free" burner servicing is contained in the remarks of the secretary of another mid-western fuel oil distributors association who states:

"I can't say that the giving of free service is a necessary factor in the marketing of fuel oil because most consumers are educated to the need of a service contract along with their oil contract, but, there are many instances where the companies, a certain number of them, find it necessary to secretly give this service to an account they have a particular desire to obtain. This usually results in putting the former supplier on the spot because, if he promises to meet it, the customer feels that he has previously been taken advantage of. However, many customers are retained by such gifts, but once started it is difficult to switch back to the original basis and it is such accounts as these that give us the greatest worry."

It is significant to report that only one marketer commenting on "free" service stated that "the trade believes it a sound practice." However, this marketer is located in Baltimore, Md., where virtually all companies give free burner service.

When asked about the problem of "free" service in Baltimore a representative of a major company marketing in that city reports, in effect, that no problem exists because all service is free.

Marketers in the northern 14 counties of New Jersey have made notable strides toward the elimination of "free" service, oil companies tell NPN.

It was not over 2 years ago when the giving of "free" service was general in northern New Jersey, one of the most concentrated domestic fuel oil consuming areas of the country. Today, "free" service is the exception.

Fuel oil marketers credit the virtual elimination of this problem to the "sad experiences" of suppliers who had been offering this inducement.

A. W. Rich, secretary of the Fuel Oil Distributors Ass'n. of New Jersey states that "free servicing is no longer a factor in our market. We are happy that free service has been eliminated. Customers," he added "are now paying for what they get, and the cost in all instances is only reasonable. Past experience," he continued, "has convinced marketers that they cannot give away service with their present fuel margins."

The average annual charge in burner service contracts in New Jersey, Mr. Rich states, is between $10 and $15, with a few as high as $25. The secretary added that some marketers set up contracts for as low as $7.50, but this is not complete service.

One marketer operating in this area, agreeing that free service had been virtually eliminated, said he believed that the realization on the part of marketers as to what service cost them in cents per gallon of fuel oil delivered has been responsible for the betterment.

Another, in the same section of the state, credits "the awakening to the fact that it is a losing money game—that it fails to bring in profitable new business, and often it is the cause for the loss of business" for the virtual elimination of "free" service.

Reporting that the central Connecticut fuel market is not bothered by free service to any appreciable degree, a marketer in this area reports that "free burner service was very prevalent until about 4 years ago, when a battle on fuel oil prices took place in lieu of free burner service, and this cleared the air."

Burner service contracts in central Connecticut range from $10 to $25 per year, "depending upon how thorough a service is rendered and how able the sale organization that sells it," this marketer adds.

Some marketers over the eastern territory have used lower fuel oil prices as a weapon to fight "free service" offers of other marketers. It

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is probably this fact that marketers have in mind—the threat of a price war— when they decry the giving of service.

One report from the Boston area adds that jobbers who do not give "free" service sell domestic fuel oil at 0.5c below the posted retail price.

NPN's survey uncovered another interesting angle to the giving of "free" service. One marketer reports that in one area of New England a supplying company "has for the past 3 years given "free" service and parts at cost to the retail customers of the jobbers they supply with heating oils."

Other reports from the general Boston area indicate that the problem of giving "free" service is diminishing. One marketer estimates that only about 10% of the home owners in this area receive "free" service, adding that "most dealers are making an effort to eliminate it."

Stating that there is less free service in the Boston area this year, another marketer reports that "all large companies refuse to offer it."

Another Massachusetts marketer reporting that the trend is definitely to less "free service," cites the expense of maintaining burners as the reason it is being eliminated.

Generally throughout the entire Massachusetts area, the price for annual service contracts ranges from $10 to $15, although extremely limited service is reported offered at $5 in some of the more competitive areas. One report from southeast Massachusetts was to the effect that "free" service is increasing there.

Margins Narrow in New York, Wiping Out 'Free' Service

Marketers operating in the concentrated New York City area also report that the narrowing margins on fuel oils have resulted in giving of less "free" service. It is reported that this is not a particularly acute problem in the more expensive residential neighborhoods, such as Westchester county, north of New York City, and in the medium class residential districts, the trend, say marketers, is to less "free" burner maintenance.

The general range of prices for annual burner service contracts in the New York area is $10 to $15. However, more complete service contracts running up to $25 and $35 are offered, marketers report.

Several fuel oil distributors in the Chicago area reported in answer to NPN's questions that the giving of "free" burner service is more prevalent in the Windy City, because more distributors were offering it.

Another report from Chicago, however, states, "There are occasional offers of absolutely 'free' service which so far have been confined to just a few companies anxious to service and hold the service business and obtain or hold the oil business of accounts which they usually claim to have originated by having sold and installed burners. Announcement of such outright 'free' service offers usually turn out to be 'door openers' or arrangements to clinch the fuel oil business and I believe I am correct in saying that subsequently or at regular intervals inspections with charges of some sort are made for any necessary cleaning of boiler or burner and for parts.

"It seems reasonable to expect," this report adds, "that should this matter of service ever develop to the point of making it a customer practice to annually clean boilers and burners without charge in connection with the fuel oil business, it would have to follow that the cost of rendering same would be reflected in the oil prices."

By and large the customary charge for annual burner service in Chicago averages around $12 to $15, including cleaning of the boiler, cleaning burner and inspection throughout the season, according to reports. However, some marketers charge up to $25 for their annual burner service contract.

Replies in NPN's survey indicate that there is little change in the burner servicing picture in Detroit or St. Louis. Reports are that a certain amount of "free" servicing has existed in the former city for more than the past 10 years, but it is generally "under-cover," to quote one reply.

"I can't say that such gratuity ("free" service) is running wild, but it is of sufficient volume to cause considerable trouble," reads one report from St. Louis.

Most of the annual burner service contracts in Detroit are offered by service concerns, and not by the oil companies, it was reported. Average charges for the annual service contract will range from about $12 to as high as $25, with some service concerns offering a reduction if an oil contract accompanies the service contract. The oil contract is then sold to the oil marketer, with the service concern receiving a commission on oil delivered.

"Most marketers would like to be rid of servicing burners and paying commissions," states this reply, "but continue them because 'the other fellow does'."

Another Detroit marketer adds: "Oil

dealers would like to eliminate any service, but one or two large companies pay commissions to several service companies who then favor these oil companies."

While the charge for annual service contracts varies considerably in St. Louis, they will range between $12 and $15, it is reported. Unlimited service calls, with furnace cleaning will run somewhat higher than the above maximum.

Cleveland, Ohio, which, according to the standards of the east, is a relatively small market for heating oil because of low-cost natural gas, neverthless, has a "free" service problem, which has grown more acute during the past several years.

Competition, according to reports here, has resulted in virtually all marketers offering "free" service, with the annual oil contract. This service not only includes emergency service calls to keep the unit operating, but also includes summer furnace cleaning, and inspection and starting of the burner in fall.

Some service contracts, ranging from $10 to $25 are being sold in Cleveland in competition with free service, however, but the trend is toward increased giving of burner maintenance by the oil companies.

Oil and Petroleum Year Book 1940

By Walter E. Skinner

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The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D C., trademark specialists.

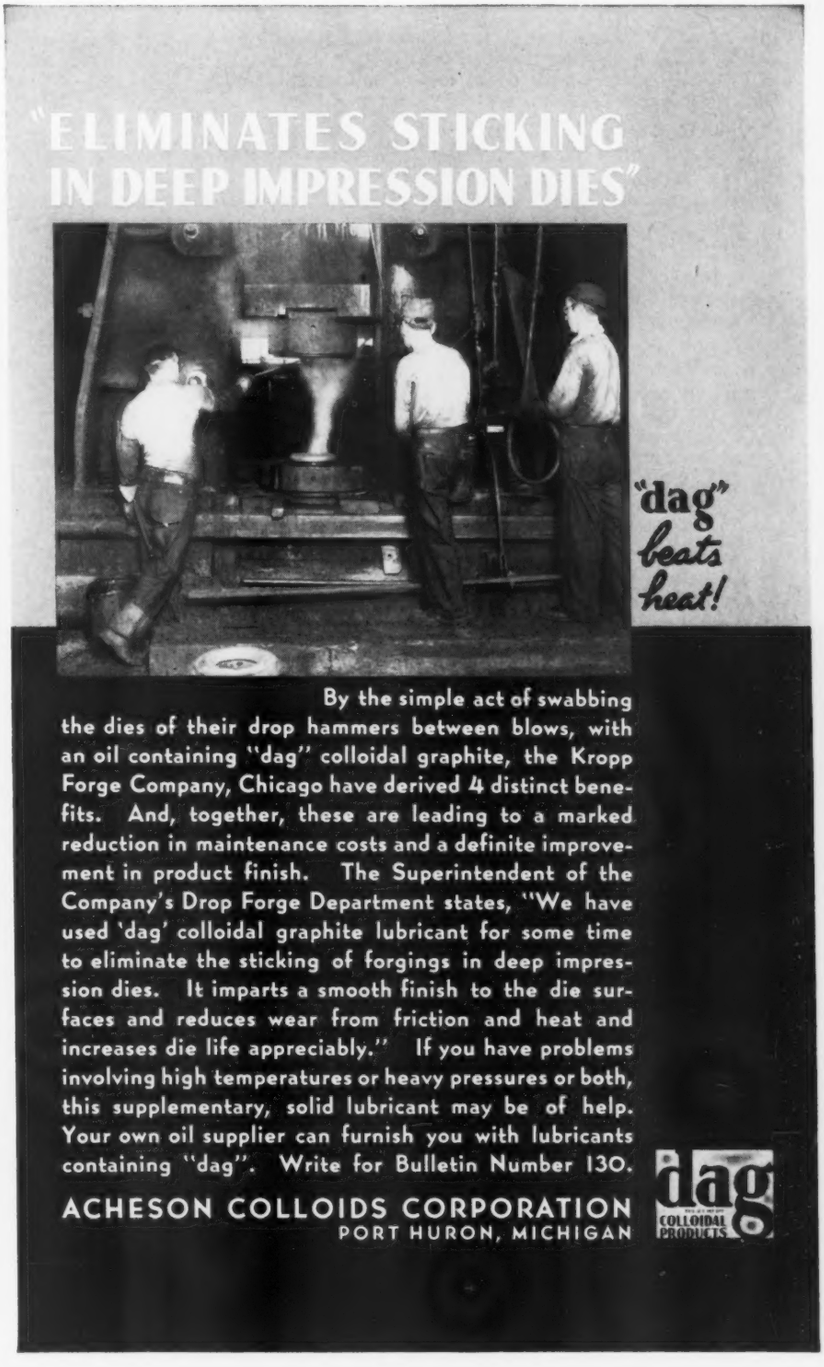
DECLENE, Ser. No. 427,371. General Motors Corp., Detroit. Filed Jan. 12, 1940. For cleaning or flushing fluid for hydraulic brakes, shock absorbers, radiators, fluid power transmitting systems, fluid circulating systems, and the like. Published May 28, 1940.

RUBALUBE, Ser. No. 428,961. La Maison Products, Inc., New York, Filed Feb. 27, 1940. For lubricants containing no oils, greases, or graphite for eliminating stabilizer noises. Published May 28, 1940.

BLASTUM, Ser. No. 429,727. W. H. Barber Co., Minneapolis. Filed March 19, 1940. For household insect spray. Published May 28. 1940.

SEALED POWER and picture of a clinched fist, Ser. No. 427,876. Bodie-Hoover Petroleum Corp., Chicago. Filed Jan. 26, 1940. For lubricating oils and lubricating greases, not including lubricating oil compounds used in gasoline. Published May 21, 1940.

PANDA PERFECT POWER and picture of a Panda, Ser. No. 429,420. Mitchell Smith, North Tonowanda, N. Y. Filed March 9, 1940. For gasoline, motor oil and lubricating grease. Published May 21, 1940.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Mid-Western Fuel Oil Marketers Prepare for Next Heating Season

KANSAS CITY, MO.

THEIR annual breathing spell—that short period between the end of one heating season and the time to begin preparing for the next—has just about drawn to a close for heating oil distributors.

By July 1 most distributors in Kansas City will be at work preparing for the 1940-1941 season and many things are to be done throughout the summer.

The most important pre-season plans include:

1. Cleaning and repairing truck and bulk plant equipment.
2. A sales drive to retain old customers and get new ones.
3. Some form of "service" on customers' equipment.

Distributors know from experience there is no time during the heating oils season to clean and repair their equipment. They know, however, it must be in the best possible condition when the season starts if they are to give the service required nowadays to hold customers. Thus heating oil equipment is given particular attention in the "off season."

Take the truck equipment, by way of example. Some distributors have all truck inspection and maintenance work done by the service department of a truck manufacturer. Others have their own mechanic or maintenance man—usually a combination mechanic and "yard" man—who is a full time employe. The large oil companies have their own motor vehicle maintenance departments.

One of the most successful independent heating oil distributors in Kansas City has found it economical to use the service department of the manufacturer from whom he buys his trucks.

Every truck manufacturer nowadays has a "service" department, which keeps a record of the trucks sold by the manufacturer and the service done on them. Many of them make periodic inspections, based on the mileage traveled.

This Kansas City distributor reports that the service department he uses phones at certain intervals and checks on the mileage of his units. If it is time for a check-up, a mechanic is sent out, or if the truck is idle for a few hours it is driven to the garage for an inspection.

At the end of the heating season the truck is given a complete inspection. Results of the inspection and recommendations as to what should be done are sent to the distributor, who decides what work is to be done.

One season a truck may not need anything more than body bolts tightened and tappets adjusted and ignition points adjusted. Another season it may need new rings, valves ground, and brakes re-lined.

Some distributors have found it practical in truck maintenance to use as a yard man one who also is a good mechanic. The yard man has to be on duty all the time but is not always busy, particularly during the summer months. So he can put in considerable time inspecting and making minor repairs on trucks.

It is difficult to determine just how many trucks a distributor should have before it is more economical to have a full time maintenance man than to use the truck service department of the manufacturer or to have a combination yard man-mechanic.

Assuming, however, that the service department's charges amount to $200 per year per truck, which probably is a little higher than average. Assuming also that a full time mechanic in this section would draw a wage of $80 a month, or $960 a year. Thus a distributor would have to have at least five trucks to justify a full time mechanic, and even then the cost of parts has not been figured.

The large companies having their own maintenance departments keep detailed records of all equipment. One company in Kansas City, for example, requires a monthly report on the condition of each piece of automotive equipment. From these reports the superintendent of the department knows what work is necessary and accordingly is responsible for the work being done.

This company keeps also a detailed cost record on each piece of equipment. This record shows the cost of the unit, the gallonage and mileage on each trip and the cost of maintenance as well as the salary of the driver. The cost per mile or per gallon delivered can be calculated at any time.

When the unit cost begins to run consistently higher than for several previous months the vehicle is ordered into the shop for a complete inspection. If this inspection shows the vehicle has "served its time" and that overhauling would be a considerable item, it is disposed of and a new vehicle purchased. Otherwise it is overhauled and returned to service.

One distributor in Kansas City has built up an excellent heating oil business—particularly home heating—by advertising that all of his trucks are equipped with automatic recording meters.

This distributor removes the meters from the trucks at the end of each season and sends them to the factory or a factory branch for a complete check and any overhauling that is necessary. The cost for this service is approximately $15 per meter.

This annual overhauling has paid dividends, in this distributor's estimation. He says that while two or three of his trucks were on 24-hour duty a part of the past season, he did not have a single meter failure. He has not had a single shortage complaint from a customer in two seasons.

This distributor also has a "spare" computer for his meters. Thus, if one of the computers in service goes bad, he can immediately replace it with the spare one, and continue his deliveries without interruption. It is only a matter of 3 to 5 minutes to remove one computer and replace it with another. All the work required is the removal of 4 hold-down bolts, lifting out of the computer to be removed, setting into place the spare one and then retightening the hold-down bolts.

The computers of the type he uses cost approximately $20 each. This distributor figures that $20 is just so much insurance cost against delays in making deliveries.

Some distributors who use meters merely clean them at the end of the heating season and leave them on the trucks, particularly if the trucks are not converted to gasoline delivery service during the summer.

Some distributors remove the hose from the reel at the end of the season, give it an inspection for any bruises and then store it in the warehouse for the summer. Others leave the hose on the reel during the summer, after cleaning it by pumping a small quantity of kerosine through it.

When the hose is inspected and bruises are found, it is tested with water pressure of some 10 to 15 pounds if the bruise appears to have weakened the hose. Several distributors in Kansas City said most of the weak spots in hose made now are at or near the

nozzle and they accordingly make it a practice each year to cut off a little of the hose and then reattach the nozzle.

One Kansas City distributor has made a "barrel reel" in the basement of his warehouse and each spring removes the hose from his truck reels, cleans them and then winds them on the storage reel. He said that by taking care of his hose this way he can get at least one additional year of service out of it.

Another distributor in Kansas City said that he always buys his hose in 150-foot lengths. He has no "spliced" hose on his trucks, say two lengths of 75 feet each.

Some distributors use the old hose on the equipment to pump out a customer's tanks. This hose, while too worn to stand pressures required to pump fuel to a customer's tank is serviceable for the pumping out operation.

Bulk plants also are inspected during the summer. The yard man usually is responsible for this work. He reports the results of his inspection to the manager or the owner and on the basis of the instructions received gets the plant in readiness for the next season. His routine inspection includes checking lines and tanks for leaks or needed repair; cleaning and painting tanks and lines when needed and other miscellaneous repairs.

The larger companies, particularly the majors, have their own bulk plant maintenance crews to handle this work.

Distributors in Kansas usually start their sales drive in May with the peak reached in August. They start by mailing contracts to last year's customers. Along in July they check the replies with the original list and make personal phone calls to those who have not sent in the signed contracts.

Distributors keep a card record of the equipment of their customers and the service given them.

There are about as many forms of service to customers in Kansas City as there are distributors.

One of the major companies, for example, makes no attempt to give burner service but notifies the burner company when something is found to be wrong with a customer's burner. The burner company then must sell its own service to the customer.

Another distributor goes all the way. He keeps a burner man busy during the summer inspecting and adjusting burners. This distributor makes it a practice to clean out the customer's storage tank by pumping out the remaining oil. If it is possible to get into the tank through a "manhole" the distributor also has the sides of the tank washed and wiped down whenever the tank is found to be dirty.

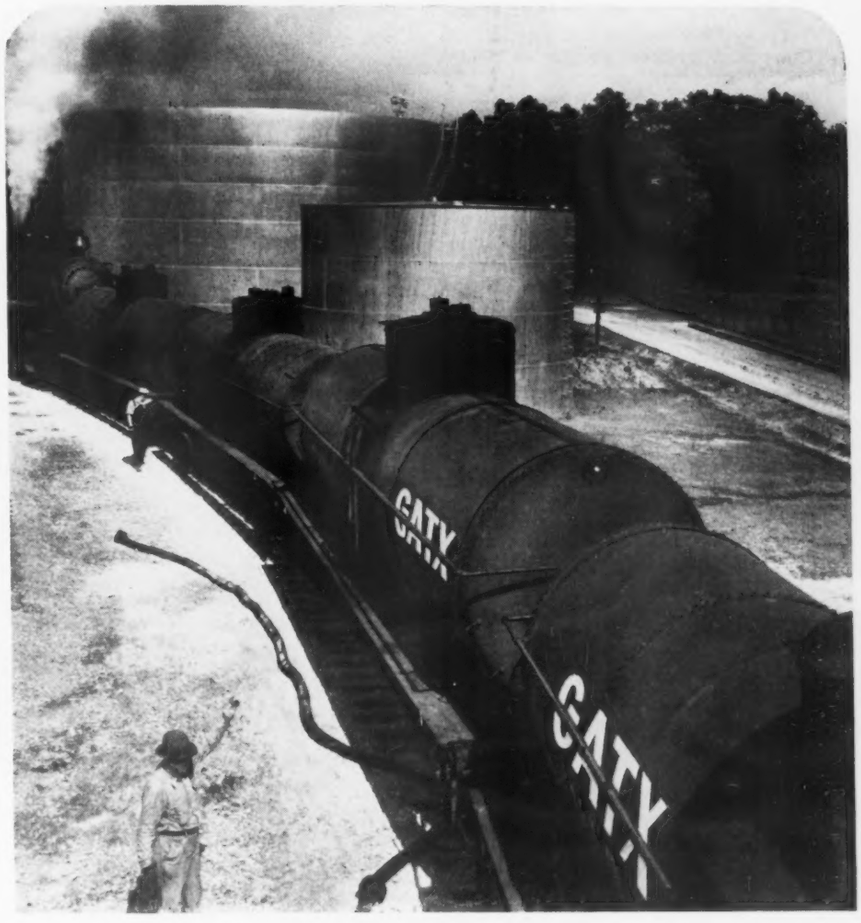
Then this distributor has the tank refilled while the burner man is completing his adjustments. The burner man starts the burner long enough to check its operation.

After all this work has been done the customer is notified by post card that (1) the burner has been inspected and adjusted and tested (2) the storage tank has been cleaned and refilled, and (3) the equipment is now ready for operation.

Another distributor in Kansas City pumps out the customer's tank, cleans the tank of any sediment and water that might have accumulated, and refills it with clean oil. The oil that has been pumped out is returned to the bulk plant and the customer given a credit adjustment on the amount removed. This company will clean the interior of a storage tank, if required, by washing it down with kerosine and then wiping the sides with rags, but makes a charge of $5 per hour for this service.

Regardless of the amount of service given, most distributors in Kansas City do check the customer's burner just before the start of the heating season and then notify the customer that this has been done.

Several distributors in Kansas City have a "credit" arrangement whereby the customer's tank is filled in the summer but he does not pay for the fuel until he starts using it in the fall.



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A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

Wage-Hour Division Rules On Trucking Employes

N. P. N. News Bureau

WASHINGTON, June 24.—Wage and Hour Division of U. S. Department of Labor has issued an interpretative bulletin concerning scope and application of maximum hour exemption of Wage-Hour law to employes of for-hire and private motor carriers in the light of recent decisions of Interstate Commerce Commission and the U. S. Supreme Court.

Interstate Commerce Commission on May 1, 1940 ruled that drivers of private motor carriers engaged in interstate or foreign commerce were subject to its safety regulations as to maximum hours of employes. Commission has applied maximum hour regulations prescribed for for-hire motor carriers to drivers employed by private carriers effective August 1, if not postponed meanwhile by action of the full Commission or delayed by litigation. (See NPN, May 15, page 8).

U. S. Supreme Court in the American Trucking Assns. case, decided May 27, 1940, held that ICC power to prescribe qualifications and maximum hours of service for employes of for-hire motor carriers under Section 204 (a) (1) and (2) of the Motor Carrier Act is limited to employes whose activities affect the safety of operation of motor vehicles.

Effect of ICC ruling was to allow a 60-hour work week for drivers instead of the 42-hour work week limitation fixed by Wage Hour Division.

Accordingly, Wage Hour Division ruled drivers of common and contract (for hire) motor carriers covered by ICC safety regulations "will be considered exempt from the maximum hour provisions of the Fair Labor Standards Act by virtue of Section 13, (b) (1)." This section provides for exemption of employes with respect to which ICC has power to establish qualifications and maximum hours of service under Section 204 of 1935 Motor Carrier Act. Wage Hour Division announced that its opinion as to other employes of for-hire motor carriers was that they "should be considered as not within the exemption provided by Section 13 (b) (1)."

Concerning employes of private motor carriers, Wage Hour Division's interpretative bulletin pointed out that since drivers employed by such carriers will be subject to regulation by the Commission they will be exempt from the maximum hour provisions of the Fair Labor Standards Act.

This includes any driver who devotes any part of his time during a workweek to transporting goods in interstate commerce, subject to the jurisdiction of the Interstate Commerce Commission under the Motor Carrier Act. Thus, a driver-salesman, who spends some of his time during a workweek in making sales, is nevertheless within the exemption, as long as during the same workweek he engages in actual driving in such interstate commerce."

Opinion was expressed that "until an order of the Commission determines that a particular class of employes of private motor carriers other than drivers affect the safety of operation of motor vehicles" and are within the ICC safety regulation jurisdiction, "it is our opinion that employes (other than drivers) of private carriers, like such other employes of common and contract carriers, should be considered as not within the exemption provided by section 13 (b) (1) of the Fair Labor Standards Act."

Concerning employes engaged in connection with motor transportation who are not within the power of the ICC safety regulations concerning qualifications and maximum hours of service, Wage Hour Division holds "such employes are not within the exemption (maximum work week) provided by Section 13 (b) (1)."

The Wage Hour Division further held that it has always been its opinion that "employees of wholesale companies engaged in the distribution within a state of goods which have been received from other states are engaged in interstate commerce within the meaning of the Fair Labor Standards Act. * * * * This includes truck drivers employed by wholesalers for the purpose of delivering such goods to retailers located wholly within the state."

(This is discussed more fully in complete text quoted below.)

Official Text Quoted

Interpretative Bulletin No. 9

THE SCOPE AND APPLICABILITY OF THE EXEMPTION PROVIDED BY SECTION 13 (b) (1) OF THE FAIR LABOR STANDARDS ACT OF 1938

1. Section 13(b)(1) of the act exempts from the maximum hour provisions of section 7—

> (1) Any employee with respect to whom the Interstate Commerce Commission has power to establish qualifications and maximum hours of service pursuant to the provisions of section 204 of the Motor Carrier Act, 1935; . . .

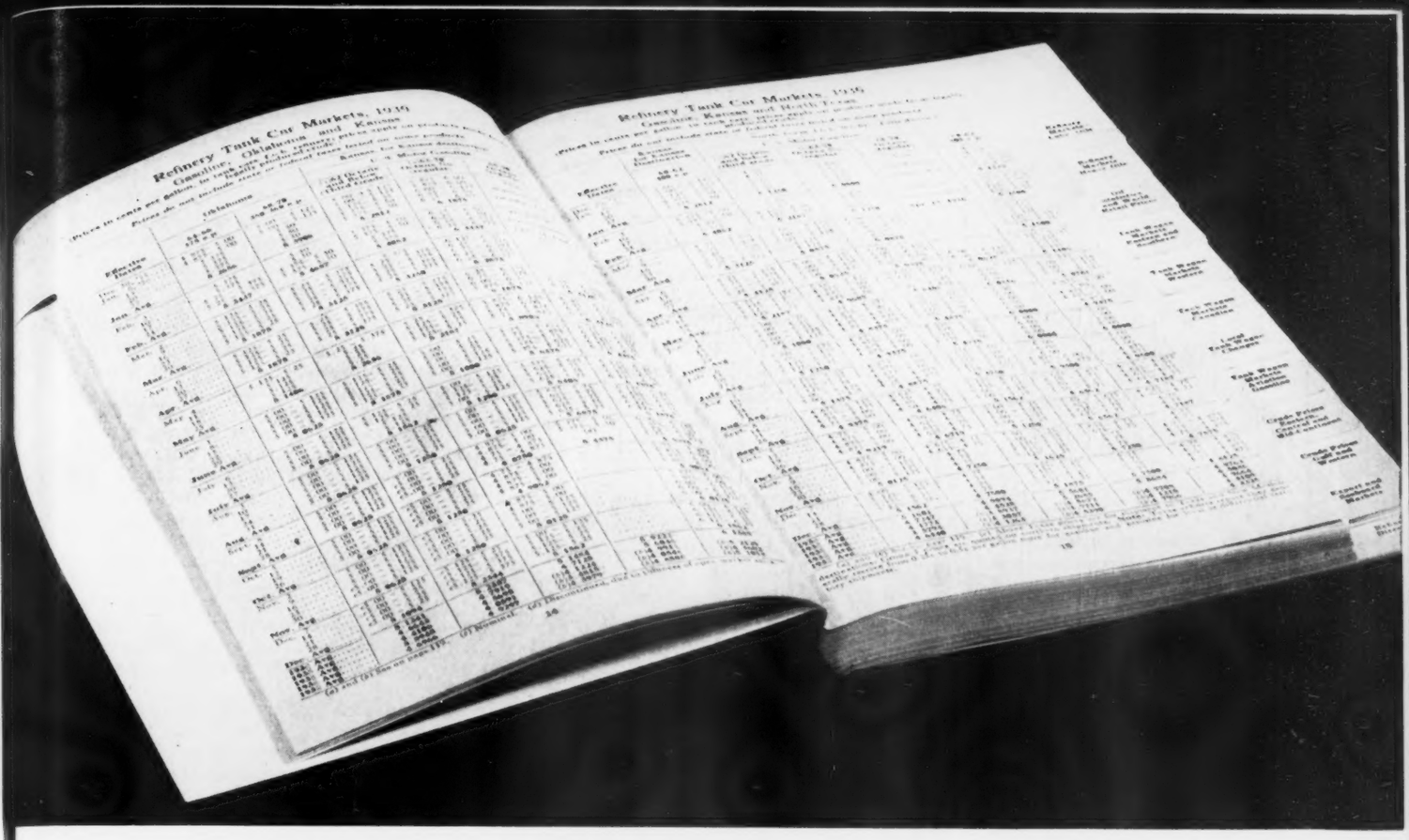
This section, it will be noted, does not exempt any such employee from the minimum wage provisions of section 6.

2. The scope of the exemption provided in section 13(b) (1) involves the interpretation not only of the Fair Labor Standards Act but also of section 204 of the Motor Carrier Act, 1935. The act confers no authority upon the Administrator to extend or restrict the scope of the exemption provided in section 13(b)(1) or even to impose legally binding interpretations as to its meaning. This bulletin is merely intended to indicate the course which the Administrator will follow in the performance of his administrative duties until otherwise required by the authoritative rulings of the courts. It is nevertheless to be noted that the Supreme Court recently held that the interpretations expressed in bulletins of this division are entitled to great weight.*

3. **Drivers of Common and Contract Motor Carriers.** Sections 204(a)(1) and (2) of the Motor Carrier Act, 1935, place upon the Interstate Commerce Commission the duty to regulate common and contract carriers by motor vehicles and to that end authorize the Commission to "establish reasonable requirements with respect to . . . qualifications and maximum hours of service of employees, and safety of operation and equipment." In a proceeding entitled "Ex Parte No. MC-2" the Commission, as the Supreme Court noted in its decision in the **American Trucking Associations** case, has established maximum hours of service for drivers of motor vehicles operated by common and contract carriers in interstate and foreign commerce. See 3 MCC 665; 6 MCC 557. Such drivers will be considered exempt from the maximum hour provisions of the Fair Labor Standards Act by virtue of section 13(b) (1).

4. **Other Employees of Common and Contract Motor Carriers.** It has recently been held by the Supreme Court of the United States that the power of the Interstate Commerce Commission to prescribe qualifications and maximum hours of service for employees of common and contract motor carriers under section 204(a)(1) and (2) of the Motor Carrier Act is limited to prescribing qualifications and maximum hours of service for

United States vs. *American Trucking Associations Inc. et al*, decided May 27, 1940.



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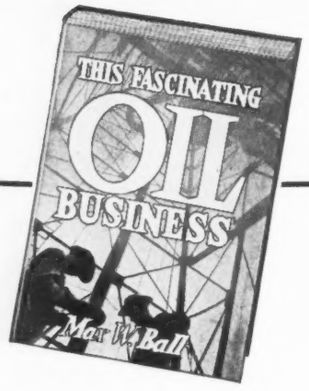

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those employees whose activities affect the safety of operation of motor vehicles.† This decision of the Supreme Court upheld the Commission's own opinion as to its power under sections 204(a)(1) and (2) (**Exparte** No. MC-28), as well as the opinion consistently maintained by this Division, and it overruled the opinion of a 3-judge district court in the District of Columbia, which had held that the Commission's power extended to all employees of common and contract motor carriers.‡ In **Ex Parte** No. MC-28, the Commission recognized that there may be some employees of common and contract carriers other than drivers whose activities affect safety of operation and it made provision for determining, upon petition by interested parties, whether any class of employees other than drivers affect safety of operation. Until it is determined, however, that a particular class of employees of common and contract motor carriers other than drivers affect the safety of operation of motor vehicles and are, therefore, within the power of the Commission under sections 204(a)(1) and (2), it is our opinion that all employees other than drivers of common and contract motor carriers should be considered as not within the exemption provided by section 13(b)(1) of the Fair Labor Standards Act.

5. Employees of Private Motor Carriers. Section 204(a)(3) of the Motor Carrier Act, 1935, places upon the Commission the duty "to establish for private carriers of property by motor vehicles, **if need therefore is found,** reasonable requirements to promote safety of operation, and to that end prescribe qualifications and maximum hours of service of employees, and standards of equipment." For a considerable period of time after the passage of the Fair Labor Standards Act, the Commission was engaged in an investigation to determine whether a need existed to prescribe qualifications and maximum hours of service for employees of private carriers engaged in interstate or foreign commerce. During this period it was our opinion that, at least until an order was issued by the Commission finding the need for regulation, employees of private carriers should be considered as not within the exemption provided by section 13 (b) (1).

On May 1, 1940, it was held by Division 5 of the Commission in a proceeding entitled "Ex parte No. MC-3" that a need exists for the regulation by the Commission of private motor carriers engaged in interstate or foreign commerce. Accordingly, the maximum hour regulations already prescribed by the Commission for drivers of common and contract motor carriers were prescribed for drivers employed by private carriers, such regulations to become effective August 1, 1940.§ Since drivers employed by such private carriers will thus be subject to regulation by the Commission they will be exempt from the maximum hour provisions of the Fair Labor Standards Act by virtue of section 13(b)(1). This includes any driver who devotes any part of his time during a workweek to transporting goods in interstate commerce, subject to the jurisdiction of the Interstate Commerce Commission under the Motor Carrier Act. Thus, a driver-salesman, who spends some of his time during a workweek in making sales, is nevertheless within the exemption, as long as during the same workweek he engages in actual driving in such interstate commerce.

It should be noted that the power of the Commission extends to all employees of private carriers whose duties affect safety of operation. The Commission has recognized that there may be some employees of private motor carriers other than drivers whose activities affect safety of operation and it made provision for determining, upon petition by interested parties, whether any class of employees other than drivers affect safety of operation. Until an order of the Commission determines, however, that a particular class of employees of private motor carriers other than drivers affect the safety of operation of motor vehicles and are, therefore, within the power of the Commission under section 204(a)(3) of the Motor Carrier Act, it is our opinion that employees (other than drivers) of private carriers, like such other employees of common and contract carriers, should be considered as not within the exemption provided by section 13(b)(1) of the Fair Labor Standards Act.

6. Employees Engaged in the Production of Goods for Interstate Commerce. The wage and hour provisions of the Fair Labor Standards Act apply to employees engaged in interstate commerce or in the production of goods for interstate commerce. See Interpretative Bulletins Nos. 1 and 5. The act is, therefore, broader in its coverage of employees engaged in connection with motor carrier transportation than is section 204 of the Motor Carrier Act, 1935, which is limited to employees of carriers engaged in transportation in interstate or foreign commerce. Thus, the Fair Labor Standards Act applies to employees engaged in the transportation of persons or property by motor vehicle between places within a state where the transporta-

†*United States* vs. *The American Trucking Associations, Inc.*, decided May 27, 1940.

‡*The American Trucking Associations, Inc.* vs. *United States*, 31 F. Supp. 35.

§*Note: It should be noted, however, that the effective date of these regulations may be postponed by action of the full Commission.*

tion constitutes the production of goods for commerce, as the term "produced" is defined in section 3(j) of the act, even though the goods have not yet entered into interstate commerce so as to subject the employees engaged in connection with their transportation to the jurisdiction of the Interstate Commerce Commission. Examples are: (a) drivers transporting goods in and about a plant producing goods for commerce; (b) chauffeurs or drivers of company cars or busses transporting officers or employees from place to place in the course of their employment in an establishment which produces goods for commerce; (c) chauffeurs driving customers of a business producing goods for commerce; (d) drivers who transport goods from a producer's plant to the plant of a processor, who, in turn sells goods in interstate commerce, the first producer's goods being a part or ingredient of the second producer's goods; (e) drivers who transport goods from a factory to the plant of an independent contractor who performs operations on the goods and returns same by truck to the factory which further processes such goods for commerce. These and other employees engaged in connection with the transportation of persons or property by motor vehicle who are subject to the Fair Labor Standards Act because engaged in the production of goods for interstate commerce and who are not subject to the Motor Carrier Act, 1935, because not engaged in interstate or foreign commerce within the meaning of that act, are not within the exemption provided by section 13(b)(1).

7. Other Employees Not Exempt Under Section 13(b)(1). Where for any other reason employees engaged in connection with motor transportation are not within the power of the Interstate Commerce Commission "to establish qualifications and maximum hours of service pursuant to the provisions of section 204 of the Motor Carrier Act, 1935," such employees are not within the exemption provided by section 13(b)(1). Thus, it appears that the Motor Carrier Act applies only to transportation, which is generally recognized as but one factor in (interstate) commerce, and that it has a different and more limited objective than the Fair Labor Standards Act.

It has always been the opinion of the Wage and Hour Division that employees of wholesale companies engaged in the distribution within a state of goods which have been received from other states are engaged in interstate commerce within the meaning of the Fair Labor Standards Act. See Interpretative Bulletin 5, paragraphs 14-16. This includes truck drivers employed by wholesalers for the purpose of delivering such goods to retailers located wholly within the state.

The Interstate Commerce Commission expressly declined to take jurisdiction over drivers employed by wholesalers operating wholly within a state except those drivers engaged in activities subject to the Interstate Commerce Act, such as transportation to or from a railhead of goods in transit to or from another state. It is our opinion, therefore, that with the exception of drivers engaged in activities subject to the Interstate Commerce Act and hence subject to the jurisdiction which the Commission has asserted under the Motor Carrier Act, drivers of wholesalers operating entirely within a state but transporting goods received from outside the state are not within the exemption provided by section 13(b)(1), unless and until the Commission asserts jurisdiction over such drivers. We must point out, however, that in any workweek in which such a driver engages in transportation subject to the jurisdiction which the Interstate Commerce Commission has asserted over such drivers, he will be considered as within the exemption provided by section 13(b)(1) and thus not subject during the entire week to the maximum hour provisions of the Fair Labor Standards Act.

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Markets

Mid-Western

CHICAGO, June 22.—Demand for gasoline was reported good throughout the past week by both refiners and tank car marketers in Chicago. Much of the gasoline was moving against contracts, it was said. Heavy movement was attributed largely to buying for storage in anticipation of an increase in the federal tax. The call for kerosine was said to have fallen off considerably.

Quotations reported for Southern Illinois products were unchanged with demand good and supplies limited, several sellers said. Group 3 quotations also were unchanged, according to reports. Offerings of 4c "Q" were reported by marketers with one marketer reporting sale of 4 cars of 72-74 oct. leaded at 4c, FOB Group 3.

Refiners' Group 3 gasoline quotations ranged from 4.75 to 5.25c for 72-74 oct., 4.375 to 4.75c for 63-66, and 4 to 4.25c for 60 oct. & below. Three marketers reported quoting 4.125c, and two 4.25c for 72-74 oct.; two quoted 3.75c for 63-66; one quoted 3.375c, and two 3.50c for 60 oct. & below, FOB Group 3.

Three tank car marketers reported the following spot sales during the week: 15 cars of Ethyl, 3 at 4.75c and 12 at 4.875c; 13 cars 72-74 oct. leaded, 4 at 4c, 6 at 4.125c, and 3 at 4.25c; 3 cars 63-66 Oct. at 3.75c; 1 car 60 oct. and below at 3.50c; and 1 car of V. M. & P. naphtha at 5.75, all FOB Group 3. Refiners reported quoting 6.375c for V.M. & P.

California

LOS ANGELES, June 22.—"Watchful waiting" appeared to be the motto adopted by both buyers and sellers on Pacific Coast export markets the past week. Reports here indicated that no business had resulted from the recent inquiries received from foreign interests. Although charter rates were said to be considerably lower than earlier in the year, difficulty in getting tankers for certain Pacific Coast territory was given as a reason for some loss of business.

An advance of 0.25c per gal. was reported in the low rack figure for third grade gasoline at independent plants in the Los Angeles Basin, bringing the range to 4.75 to 5.5c.

Pennsylvania

CLEVELAND, June 22.—Lube oils and wax in western Pennsylvania suffered further from a diminishing export market the past week. Neutral and bright stock quotations were down 1c, and wax was off 0.75c a pound. Gasoline demand continued heavy, kerosine was more plentiful than for several weeks, and fuel oil remained scarce, according to reports from the field.

Quotations reported for 25 pour test neutrals ranged from 21 to 22c for 200 vis., 19 to 20c for 150 vis., off 1c on the lows for both grades. Twenty-five pour bright stock quotations ranged from 17 to 18c, also off 1c on the low. White crude scale wax was offered at 3.625 to 4.375c, New York. At least one large shipment of wax, on its way to Europe, was said to have been turned back, and there were similar reports regarding lubes.

Quotations reported for the light products for the most part were unchanged.

Mid-Continent

TULSA, June 22.—Bright stocks and No. 3 neutral oils were offered 1c a gal. lower in the Mid-Continent the past week when some refiners reported price cuts to "meet Pennsylvania competition." The export situation also was "in a muddle," one refiner said.

Wheat harvest and jobber buying "to get in under the tax wire," stimulated gasoline demand "beyond expectations," several refiners said. One Oklahoma refiner said he had reduced his gasoline stocks 19,000 bbls. during the first three weeks of June. Others reported they were short of tank cars, but added that there was "no danger of any jobber not getting his gasoline." An Oklahoma refiner reported selling occasional cars of 72-74 oct. gasoline open spot at 5.25c. Quotations reported by other Oklahoma refiners for 72-74 oct. ranged from 4.75 to 5.25c.

Good inquiry for industrial fuel oils was reported by several refiners. "We couldn't take on any new business even at higher prices," one refiner commented. Quotations for No. 6 fuel reported by Oklahoma refiners were at 55c a bbl.

N.P.N. Gasoline Index

	Dealer T.W. Cents	Tank Car per Gal.
June 24	8.94	5.24
Month ago	9.05	5.63
Year ago	9.72	5.71

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Atlantic Coast

NEW YORK, June 22.—With exception of reductions reported by two suppliers in their gasoline quotations at some points, suppliers' quotations for refined products along the Atlantic Coast generally were unchanged the week ended June 22. Quotations for 72-74 oct. were down 0.4c to 6.20c at Albany; 0.3c to 6.30c at Portland, and 0.25c to 6.50c at Savannah. Quotations reported by Boston and Providence suppliers for 65-66 oct. were down 0.5c to 6.25c.

Continued good demand for gasoline from small distributors for immediate delivery was reported by some suppliers.

Gulf

NEW YORK, June 22.—Grade "C" fuel was quoted higher, and low diesel index gas oils and kerosine were offered lower at the Gulf the past week, according to reports here and from the southwest. Refiners' asking prices for other products were reported unchanged. No open spot sales were reported. Some refiners said they had received a number of export and coastwise inquiries for gasoline and gas oil.

Sudden drop in coastwise tanker rates has led some refiners to expect increased demand for refined products, it was said. Consensus among Atlantic Coast buyers appeared to be that tanker rates will continue to fall, and they said they were in "no hurry" to place orders.

Refiners' asking prices reported for cargo lots of Bunker "C" fuel ranged from $0.80 to $0.87, up 2c per bbl. on the low. Offers of below 43 diesel index gas oil at 3c, 43-47 d.i. at 3.125c and 48-52 d.i. at 3.25c, or 0.125 to 0.25c lower, were said to have been made. Asking prices for kerosine also were down 0.125c, at 4c to 4.625c, according to reports.

To Speed Research, Defense Commission Establishes Bureau

WASHINGTON — Basic statistical and research activities of National Defense Advisory Commission will be handled through a central Bureau of Research and Statistics, under direction of Stacy May, assistant director for the Social Sciences of the Rockefeller Foundation, Advisory Commission announced today.

Bureau will channelize requests of Defense Commissioners to existing research and statistical agencies of federal, state and local governments, as well as to trade associations and business enterprises.

Bureau also plans to cooperate with existing agencies to supplement and assist Army and Navy Munitions Board in carrying out basic statistical and research activities relative to problems confronting Defense Commission.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (June 18 to June 24)

	Latest Prices Mon. June 24	June 18	June 19	June 20	June 21
U. S. Motor, (ASTM octane)					
72-74 octane:					
Oklahoma	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.00 (2)	5.00 (2)	5.00 (2)	5.00 (2)	5.00 (2)
East Texas	5.00 (1)	5.00 (1)	5.00 (1)	5.00 (1)	5.00 (1)
63-66 octane:					
Oklahoma	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Mid-Western (Group 3 basis)	4.375 – 4.75	4.375 – 4.75	4.375 – 4.75	4.375 – 4.75	4.375 – 4.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.625 (2)	4.625 (2)	4.625 (2)	4.625 (2)	4.625 (2)
60 octane & below:					
Oklahoma	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Mid-Western (Group 3 basis)	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00	4.00	4.00	4.00	4.00
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)
Motor Gasoline, 72-74 octane (ASTM):					
New York harbor	6.00 – 6.70	6.00 – 6.70	6.00 – 6.70	6.00 – 6.70	6.00 – 6.70
Philadelphia district	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00
Baltimore district	6.25 – 7.75	6.25 – 7.75	6.25 – 7.75	6.25 – 7.75	6.25 – 7.75
Motor Gasoline:					
74-76 Octane: (L-3)					
Bradford-Warren (Western Penna.)	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
72-73 Octane: (L-3)					
Bradford-Warren (Western Penna.)	5.75	5.75	5.75	5.75	5.75
Other Districts (Western Penna.)	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	June 24	June 17
OKLAHOMA		
72-74 oct.	4.75 – 5.25	4.75 – 5.25
63-66 oct.	4.25 – 4.75	4.25 – 4.75
60 oct. & below	4.00 – 4.25	4.00 – 4.25
60-62 400 e.p.	4.00 (2)	4.00 (2)
MID-WESTERN		
72-74 oct.	4.75 – 5.25	4.75 – 5.25
63-66 oct.	4.375 – 4.75	4.375 – 4.75
60 oct. & below	4.00 – 4.25	4.00 – 4.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.75 – 4.875	4.75 – 4.875
63-66 oct.	4.50 – 4.625	4.50 – 4.625
60 oct. & below	4.00	4.00
60-62, 400 e.p.	4.00 (2)	4.00 (2)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	5.00 (2)	5.00 (2)
63-66 oct.	4.625 (2)	4.625 (2)
60 oct. & below	4.00 (2)	4.00 (2)
CENT. W. TEX. (Prices to truck transports)		
72-74 oct. (L-3)	5.00 (1)	5.00 (1)
67-69 oct. (L-3)	4.25 (1)	4.25 (1)
62 oct. & below (L-3)	4.00 (1)	4.00 (1)
E. TEX.		
72-74 oct.	5.00 (1)	5.00 (1)
60-62, 400 e.p.	4.25 (1)	4.25 (1)
KANSAS (For Kansas destinations only)		
72-74 oct.	5.00 – 5.125	5.00 – 5.125
63-66 oct.	4.625 – 4.75	4.625 – 4.875
60 oct. & below	4.125 – 4.375	4.125 – 4.375
N. LA. (For shipment to La. & Ark.)		
72-74 oct.	5.125 – 5.375	5.125 – 5.375 (1)
63-66 oct.	4.625 – 4.875 (1)	4.625 – 4.875 (1)
60 oct. & below	4.25 – 4.50 (1)	4.25 – 4.50 (1)

Prices Effective	June 24	June 17
ARK. (FOB Ark. plant of one refiner, for shipment to Ark. & La.)		
72-74 oct.	4.875	4.875
70-72 oct.	4.625	4.625
60 oct. & below	4.25	4.25
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
74-76 oct. (L-3)	6.00 – 6.25	6.00 – 6.25
72-73 oct. (L-3)	5.75	5.75 (2)
Naphtha		
Untreated naphtha	.....	.....
Stoddard Solvent	.....	.....
Other districts:		
74-76 oct. (L-3)	5.75 – 6.00	5.75 – 6.00
72-73 oct. (L-3)	5.50 – 5.75	5.50 – 5.75
Naphtha		
Untreated naphtha	5.50	5.50
Stoddard Solvent	5.75 – 6.00	5.75 – 6.00
CENTRAL MICHIGAN (f)		
U.S. Motor: (Oct. L-3)		
72-74 oct.	6.50 – 7.25	6.50 – 7.25
67-69 oct.	5.50 – 6.25	5.50 – 6.25
Str.-Run Gasoline	(g) 4.25 – 5.00	(g) 4.25 – 5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.25	7.25
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5.75 – 7.00	5.75 – 7.00
54-58 grav., for outside state shipment	5.50 – 6.50	5.50 – 6.50
54-58 grav., for instate shipment	5.00 – 6.00	5.00 – 6.00

Kerosine, Gas & Fuel Oils

Prices Effective	June 24	June 17
OKLAHOMA		
41-43 grav. w.w.	3.875 – 4.25	3.875 – 4.25
42-44 grav., w.w.	4.00 – 4.625	4.00 – 4.625
Range Oil	3.625 – 3.875	3.625 – 3.875
No. 1 P.W.	3.625 – 3.75	3.625 – 3.75
No. 1 straw	3.375–3.625 (2)	3.375–3.625 (2)
No. 2 straw	3.25 – 3.625	3.25 – 3.625
No. 2 dark	3.375 (1)	3.375 (1)
U.G.I. gas oil	3.25 (2)	3.25 (2)
No. 3 fuel	3.25 – 3.375	3.25 – 3.375
No. 6 fuel	$0.55 (2)	$0.50–$0.55 (2)
14-16 fuel	$0.85 (1)	$0.85 (1)
MID-WESTERN		
41-43 grav. w.w.	3.875 – 4.25	3.875 – 4.25
42-44 grav. w.w.	4.00 – 4.625	4.00 – 4.625
Range oil	3.75 – 3.875 (2)	3.75 – 3.875 (2)
No. 1 p.w.	3.625 – 3.75	3.625 – 3.75
No. 1 straw	3.50 – 3.625	3.50 – 3.625
No. 2 straw	3.375 – 3.50	3.375 – 3.50
No. 3	3.125 – 3.375	3.125 – 3.375
No. 5	$0.75 (1)	$0.75 (1)
No. 6	$0.50–$0.55 (2)	$0.50–$0.55 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	3.875–4.00 (2)	4.00 (2)
No. 1 P.W.	3.875 (2)	3.875 (2)
E. TEX.		
41-43 grav. w.w.	3.50 – 3.75 (1)	3.50 – 3.75 (1)
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	4.125 – 4.25	4.125 – 4.25
42-44 gravity w.w.	4.25 – 4.50	4.375 – 4.50
No. 1 p.w.	3.875	3.875 – 4.00
No. 6 fuel	$0.60 (2)	$0.60 (2)
N. LA. (For shipment to La. and Ark.)		
41-43 grav. w.w.	3.875–4.00 (1)	3.875–4.00 (1)
10-14 gravity	$0.65–$0.70 (1)	$0.65–$0.70 (1)

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales.

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	June 24	June 17
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.375	4.375
No. 1	3.875	3.875
No. 2	3.375	3.375
28-32 zero fuel	3.25	3.25
Tractor Fuel	(h)4.25	(h)4.25
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.125–5.25	5.125–5.25
46 grav. w.w.	5.375 (1)	5.375 (1)
36-40 gravity	4.875 (2)	4.875–5.00 (2)
Other districts:		
45 grav. w.w.	5.00	5.00
46 grav. w.w.	5.125	5.125
47 grav. w.w.	5.125–5.25	5.125–5.25
36-40 gravity	(f) 3.875–4.50	(f) 3.875–4.50
CENTRAL MICHIGAN (f)		
47-49 gravity w.w.	4.50–5.00	4.50–5.00
P.W. Distillate	4.25–4.50	4.25–4.50
No. 3 gas oil, Str.	4.00–4.25	4.00–4.25
U.G.I. gas oil	3.00–3.75	3.00–3.75
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.25–3.00 (2)	2.25–3.00 (2)
300-500 Vis.	2.25–3.25 (2)	2.25–3.25 (2)
100-300 Vis.	3.25–3.50 (1)	3.25–3.50 (1)
CALIFORNIA		
40-43 grav. w.w.	4.50–6.00	4.50–6.00
San Joaquin Valley:		
Heavy fuel	$0.55–$0.75	$0.55–$0.75
Light fuel	$0.75–$0.85	$0.75–$0.85
Diesel fuel	2.75–4.00	2.75–4.00
Stove dist.	3.00–5.00	3.00–5.00
Los Angeles:		
Heavy fuel	$0.50–$0.70	$0.50–$0.70
Light fuel	$0.55–$0.80	$0.55–$0.80
Diesel fuel	2.50–4.00	2.50–4.00
Stove dist.	2.50–5.00	2.50–5.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Viscous Neutrals — No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.

0 p.t.	24.50 (l)	25.50 (l)
10 p.t.	23.50 (l)	24.50 (l)
15 p.t.	22.50 (l)	23.50 (l)
25 p.t.	21.00–22.00	22.00

150 Vis. (143 at 100) 400-405 fl.

0 p.t.	22.50 (l)	23.50 (l)
10 p.t.	21.50 (l)	22.50 (l)
15 p.t.	20.50 (l)	21.50 (l)
25 p.t.	19.00–20.00	20.00

Cylinder Stocks

Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.

10 p.t.	19.50 (l)	20.50 (l)
15 p.t.	18.50 (l)	19.50 (l)
25 p.t.	17.00–18.00	17.00–19.00
600 S.R. filterable	11.00	11.00–12.00
650 S.R.	13.00	13.00
600 fl.	14.00	14.00
630 fl.	16.00	16.00–17.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis.	Color		
60-85—No. 2		5.50–6.25	5.75–6.25
86-110—No. 2		5.50–6.75	6.00–6.75
150—No. 3		8.50–11.25	9.50–11.25
180—No. 3		9.50–11.50	10.50–11.50
200—No. 3		10.00–12.00	11.00–12.00
250—No. 3		11.00–13.00	12.00–13.00
280—No. 3		11.50–14.75	12.50–14.75
300—No. 3		12.00–15.25	13.00–15.25

Lubricating Oils (Cont'd)

Prices Effective	June 24	June 17
Red Oils:		
180—No. 5	11.50 (1)	11.50 (1)
200—No. 5	11.00–11.50 (2)	11.00–11.50 (2)
280—No. 5	12.50 (1)	12.50 (1)
300—No. 5	14.00 (1)	14.00 (1)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stocks:

200 Vis. at D. 210°	20.00 (1)	21.00 (1)
150-160 Vis. at 210° D:		
0 to 10 p.p.	16.00–19.00	17.00–19.00
10 to 25 p.p.	15.50–18.50	16.50–18.50
25 to 40 p.p.	18.00–18.50 (2)	18.00–18.50 (2)
150-160 vis. at 210° E.	14.50–18.00	15.50–18.00
120 Vis. at 210° D:		
0 to 10 p.p.	15.00–18.00	16.00–18.00
25 to 40 p.p.	17.00 (1)	17.00 (1)
600 S.R. Dark Green	7.00 (2)	7.00 (2)
600 S.R. Olive Green	8.00–9.00	8.00–9.00
631 S.R.	13.00 (1)	14.00 (1)
Black Oil	4.00–5.50 (2)	4.00–5.50 (2)

SOUTH TEXAS Neutral Oils

Vis.	Color		
Pale Oils: (*Vis. at 100°F*)			
100 No. 1½-2½		5.75–6.00	5.75–6.00
200 No. 2-3		7.50	7.50
300 No. 2-3		8.00	8.00
500 No. 2½-3½		9.00	9.00
750 No. 3-4		9.50	9.50
1200 No. 3-4		9.875	9.875
2000 No. 4		10.00	10.00
Red Oils:			
200 No. 5-6		7.50	7.50
300 No. 5-6		8.00	8.00
500 No. 5-6		9.00	9.00
750 No. 5-6		9.50	9.50
1200 No. 5-6		9.875	9.875
2000 No. 5-6		10.00	10.00

CHICAGO (From Mid-Continent p.l. crude)

Neutra Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis.	Color		
60-85—No. 2		7.25	7.75
86-110—No. 2		7.25	7.75
150—No. 3		9.50	10.50
180—No. 3		10.50	11.50
200—No. 3		11.00	12.00
250—No. 3		12.00	13.00
Red Oils:			
180—No. 5		10.50	10.50
200—No. 5		11.00	11.00
250—No. 5		12.00	12.00
280—No. 5		12.50	12.50
300—No. 5		13.00	13.00

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)

140	8.75	8.75
160	9.50	9.50
200	10.50	10.50

Bright stocks, 160 vis. at 210, No. 8 color:

0 to 10 p.p.	17.00	17.00
15 to 25 p.p.	16.00	16.00
30 to 40 p.p.	15.25	15.25
Filtered Cyl. Stock	12.50	12.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	(k)1.50	(k)1.50
FOB BRECKENRIDGE		
Grade 26-70	(i)1.25	(i)1.25
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	5.50–6.25	5.50–6.25

Naphtha and Solvent

Prices Effective	June 24	June 17
(FOB Group 3)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	6.625–7.375	6.625–7.375
Benzol Diluent	7.875–8.375	7.875–8.375

Wax

White Crude Scale:

WESTERN PENNA. (Bbls., C.L., N. Y.)		
122-124 A.m.p.	3.625–4.375	3.625–4.375
124-126 A.m.p.	3.625–4.375	3.625–4.50
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-126 A.m.p.	3.75 (1)	4.00 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:

122-124 (bags only)	6.10	6.10
125-127	6.10	6.10
127-129	6.35	6.35
130-132	6.65	6.65
132-134	6.90	6.90
135-137	7.65	7.65

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125	6.125
Lily White	5.125	5.125
Cream White	4.125	4.125
Light Amber	3.00	3.00
Amber	2.875	2.875
Red	2.625	2.625

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine		Distillate-Gas Oil-Fuel Oil	
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.231	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	61	4.026	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'ls-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil. Combination rate of 32c per cwt. at 7.4, Group 3 to Chicago, plus 9c per cwt. at 6.6, Chicago to South Bend, total of 2.962c per gal., applies to petroleum fuel oil distillate not suitable for illuminating purposes.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (l) Pittsburgh district prices excluded.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)

Prices Effective June 24

MOTOR GASOLINE (ASTM Octane)

District:	72-74 Oct.	68-70 Oct.	65-66 Oct.	60-64 Oct.	KEROSINE and or NO. 1 FUEL
N. Y. Harb.	6.00 – 6.70	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	5.40 – 5.50
N. Y. Harb., barges	5.75 – 6.50	5.75 – 6.00	5.75 – 6.25	5.75 – 6.00	5.30 – 5.50
Albany	6.20 – 6.60	.....	.....	.....	5.50
Philadelphia	6.25 – 7.00	6.25 – 6.75	6.25 – 6.50 (2)	6.00 – 6.75	5.50 – 6.00
Baltimore	6.25 – 7.75	6.25 – 7.00	6.25 (2)	6.25 – 6.50	5.50 – 6.00
Norfolk	6.75 – 7.75	6.50 – 7.00	6.75 (1)	6.25–6.75 (2)	5.25 – 5.625
Wilm'ton	6.75 – 7.55	6.25 – 7.00	6.75 (1)	6.25 – 6.75	5.50 – 5.625
Char'ston	6.75 – 7.55	7.00 (2)	6.75 (1)	6.25 – 6.75	5.50 – 5.625
Savannah	6.50 – 7.00	6.25 – 7.00	.....	6.25 – 6.50	5.50 – 5.625
Jacksonville	6.50 – 7.00	6.25 – 6.50	.....	5.75 – 6.50	5.50 – 5.75
Miami	6.50–7.00 (2)	6.50 (1)	.....	5.75 –6.50 (2)	5.50 –5.75 (2)
Tampa	6.50 – 7.00	6.25–6.50 (2)	.....	6.25 – 6.50	5.50 – 5.75
Pensacola	6.75–7.00 (1)	.....	.....	6.25–6.50 (1)	5.50–5.625 (1)
Mobile	6.50 – 7.00	6.00 (1)	.....	5.75 – 6.50	5.375–5.625 (2)
Portland	6.30 – 6.60	6.50 (1)	.....	.....	5.60
Boston	6.00 – 6.50	6.00 – 6.25 (2)	6.25 – 6.75	5.75 – 6.25	5.50
Providence	6.20 – 6.50	.....	6.25 –6.75 (2)	5.95 – 6.25	5.50

FUEL OILS

	Nos. 2-3	No. 4	No. 5	No. 6
N. Y. Harb.	4.70 – 4.75	4.75 (1)	$1.55 –$1.70	$1.35
N. Y. Harb., barges	4.60 – 4.65	4.65 (1)	.....	.....
Albany	4.80 (2)	.....	$1.95 (1)	$1.55 (1)
Philadelphia	4.75 – 5.00	4.75 (1)	$1.46 –$1.575	$1.25 –$1.50
Baltimore	4.75 – 5.00	4.50 (1)	$1.47 (1)	$1.25 –$1.35
Norfolk	4.75 – 5.50	.....	.....	$1.35 (2)
Wilmington	4.75 – 5.50	.....	.....	.....
Charleston	4.75 (2)	.....	.....	$1.30 (2)
Savannah	.....	.....	.....	$1.30 (1)
Jacksonville	4.75 (1)	.....	.....	$1.30 (2)
Tampa	4.75 (1)	.....	.....	$1.25 (2)
Portland	4.90	.....	$1.95 (1)	$1.45 –$1.55
Boston	4.80	.....	$1.65 –$1.80 (2)	$1.35
Providence	4.80	.....	$1.65 –$1.80 (2)	$1.35

	Bunker C Fuel Ships' bunkers (g)	Diesel Oil Ships' bunkers (g)	Diesel Oil Shore Plants	Gas House 28-34	Gas Oil Gravity
N. Y. harbor	$1.35	$1.95	4.70 – 4.90	4.80	
Albany	$1.55 (1)	.....	4.80	.....	
Philadelphia	$1.25 –$1.50	$1.95 –$2.30	.....	.....	
Baltimore	$1.35	$1.95	4.75	4.75	
Norfolk	$1.35	$1.95 –$1.995	4.75	4.75	
Charleston	$1.30	$1.90 –$1.995	4.75	4.75	
Savannah	$1.30 (1)	$1.90 –$1.95	.....	.....	
Jacksonville	$1.30	$1.90 –$1.995	5.00	.....	
Tampa	$1.25	$1.90 –$1.995	5.00	.....	
Portland	$1.45 –$1.55	$2.05	4.90	5.00	
Boston	$1.35	$1.95	4.80 – 4.90	4.80 – 4.90	
Providence	$1.35	$1.95	4.80	4.90	

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	June 24	June 17
Bright stock:		
Light, 25 p.t.	25.00–25.50 (2)	25.00–28.00 (2)
Neutral oil:		
200 S. color, 25 p.t.	28.00 (1)	28.00 (1)
150 S color, 25 p.t.	26.00–27.50 (2)	26.00–29.00 (2)
600 s.r., unfilt.	18.50–19.50 (2)	18.50–19.50 (2)
650 s.r., unfilt.	19.00–21.50 (2)	19.50–21.50 (2)
600 fl., s.r.	20.00–22.50 (2)	20.00–22.50 (2)
630 fl., s.r.	24.50–25.50 (2)	24.50–25.50 (2)

Wax

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS. c.l. Domestic prices, FOB. refr'ies., in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Scale solid; fully refined slabs in bags)

Prices Effective June 24

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	3.625 (1)	.....	3.625 (1)
122-4 White	.....	3.625–4.375	3.625–4.375
124-6 White	3.625–3.75 (2)	3.50–4.375	3.625–4.375
Fully Refined:			
123-5	.....	6.10 (2)	6.125 (1)
125-7	6.00 (1)	6.10 (2)	6.00–6.25 (2)
128-30	6.25 (1)	6.10–6.20 (i)	6.25–6.50 (2)
130-2	6.50 (1)	6.35 (2&i)	6.50–6.75 (2)
133-5	7.00 (1)	6.65 (i)	7.00–7.25 (2)
135-7	7.25 (1)	6.90 (1&i)	7.25–7.75 (2)
108-11 White Match	.....	.....	4.00 (1&j)

Naphtha

Prices Effective June 24	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8.0–8.5
New York Harbor	9.0–9.5	8.5–9.0
Philadelphia district	10	8.25–9
Boston	9.5	9.25–9.50
Providence	9.5	9.5
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.

†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	June 24	June 17
375 e.p. blend, 70 oct.	5.25 – 5.875	5.25 – 5.875
390 e.p. blend, 68 oct.	5.125– 5.75	5.125– 5.75
390 e.p. blend, 66 oct.	5.125– 5.625	5.125– 5.625
400 e.p. blend, 65 oct. min.	5.00 – 5.50	5.00 – 5.50
U. S. Motor, under 65 octane	5.00 – 5.375	4.875– 5.375
38-40 grav. w.w. kero., 150 fire point	4.50 – 5.00	4.25 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.25	4.50 – 5.00
44 grav., w.w. kero.	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.35	$1.20 –$1.30
Diesel fuel, under 24	$1.15 – $1.25	$1.10 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 – $1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.65 – $0.75	$0.65 – $0.75
In Ships' Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.75 –$0.90	$0.75 –$0.90

Pacific Export (Cont'd)

Prices Effective	June 24	June 17
Cased Goods: (Per case)		
U. S. M.	$1.45 –$1.55	$1.45 –$1.55
375-400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
400 e.p. blend, under 65 oct.	$1.50 –$1.60	$1.50 –$1.60
40-43 grav. w.w. kero., 150 fire point	$1.40 –$1.50	$1.40 –$1.50
Kero., p.w.	$1.30 –$1.45	$1.30 –$1.45

Tanker Rates

(Approximate rates. Cents per bbl.)	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & fuel, (10 to 19.9 gravity)	30	30
Light Crude, (30 Grav. or Lighter)	25	25
Gasoline	42	42
Kerosine	45	45
No. 2 Fuel	48	48

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf for domestic and export for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

MOTOR GASOLINE (ASTM Octane)

Prices Effective June 24

	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
72-74 oct. leaded	4.125–4.25	4.125–4.25	4.25 –4.375
70 oct. unleaded	4.50 –4.75	4.50 –4.75	4.625–4.875
68 oct. unleaded	4.125–4.375	4.125–4.375	4.25 – 4.50
65 oct. unleaded	4.00 –4.125	4.00 –4.125	4.125–4.25
60 oct. unleaded	4.00	4.00	4.00 –4.125

KEROSINE, GAS & FUEL OILS

	June 24	June 17
41-43 grav. w.w. kero.	4.00 – 4.625	4.125– 4.625
Gas Oil (Less than ½ of 1% sulfur)		
Below 43 diesel index	3.00 – 3.375	3.00 – 3.50
43-47 diesel index	3.125– 3.375	3.125– 3.50
48-52 diesel index	3.25 – 3.625	3.375– 3.625
53-57 diesel index	3.625– 3.75	3.625– 3.75
58 & above	4.00 – 4.125	4.00 – 4.125
No. 2 fuel	3.50 – 3.625	3.50 – 3.75
(g) Diesel oil, ships' bunkers	$1.50 –$1.70	$1.50 –$1.70
(g) Grade C, ships' bunkers	$0.80 –$0.95	$0.80 –$0.95
Grade C cargoes	$0.80 – $0.87	$0.78 –$0.87

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

	June 24 (l) Packages	Bulk
200 vis. D. 210 brt. stock	27.50–29.50 (2)	21.80 (2)
150 vis. D 210 brt. stock 0-10 p.p.	23.50–25.50 (2)	17.80 (2)
10-25 p.p.	23.00 (1)	17.30 (1)
100 vis. D 210 brt. stock 0-10 p.p.	22.50 (1)	16.80 (1)
10-25 p.p.	22.00 (1)	16.30 (1)
200 vis. No. 3 col. neutral:		
0-10 p.p.	17.50 (1)	11.80 (1)
10-25 p.p.	.....	.....
180 vis. No. 3 col. neutral:		
0-10 p.p.	.....	.....
10-25 p.p.	.....	.....

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0. bbl. expt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	June 24	June 17
100 No. 3	6.00 – 6.50	6.00 – 6.50
200 No. 3	7.50 – 8.50	7.50 – 8.50
300 No. 3	8.00 – 9.00	8.00 – 9.00
500 No. 3½	9.00 –10.50	9.00 –10.50
750 No. 4	9.50 –11.00	9.50 –11.00
1200 No. 4	10.00 –13.50	10.00 –13.50
2000 No. 4	10.25	10.25
Red Oils:		
100 No. 5-6	6.00 – 6.50	6.00 – 6.50
200 No. 5-6	7.50 – 8.50	7.50 – 8.50
300 No. 5-6	8.00 – 9.00	8.00 – 9.00
500 No. 5-6	9.00 –10.50	9.00 –10.50
750 No. 5-6	9.50 –11.00	9.50 –11.00
1200 No. 5-6	10.00 –13.50	10.00 –13.50
2000 No. 5-6	10.25	10.25

(g) Lighterage, additional at some points, not included. (i) Shipment in bags or in bulk. (j) Shipment in tight barrels. (l) New steel drums.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect June 24, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	7.6	8.7	4	8.4
*Newark, N. J.	7.6	8.7	4	8.4
Annapolis, Md.	8.35	9.35	5	9.50
Baltimore, Md.	7.75	8.75	5	9
Cumberland, Md.	9.15	10.15	5	10
Washington, D. C.	8.0	9	3	9.5
Danville, Va.	8.95	11.45	6	11.5
Norfolk, Va.	7.75	10.25	6	11
Petersburg, Va.	8.05	10.55	6	11.7
Richmond, Va.	8.05	10.55	6	11
Roanoke, Va.	9.25	11.75	6	11
Charleston, W. Va.	8.55	11.05	6	12.6
Parkersburg, W. Va.	7.85	9.85	6	11.2
Wheeling, W. Va.	8.85	10.75	6	11.8
Charlotte, N. C.	9.9	11.4	7	11.8
Hickory, N. C.	10.45	11.95	7	12.3
Mt. Airy, N. C.	10.3	11.8	7	12.2
Raleigh, N. C.	9.65	10.5	7	11.5
Salisbury, N. C.	9.95	10	7	11.9
Charleston, S. C.	7.75	10.25	7	9.25
Columbia, S. C.	8.6	11.1	7	11.5
Spartanburg, S. C.	9.3	11.8	7	12.2

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	11.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

	Fuel Oils—T.W. No. 1	No. 2	No. 4
Atlantic City, N. J.	8.4	6.75	6.75
Newark	8.4	6.75	6.75
Annapolis, Md.	....	7.0	....
Baltimore	7.5	7.0	6.50
Washington, D. C.	7.75	7.25	7.25
Norfolk, Va.	7.50	6.50	6.50
Petersburg	7.75	6.75	....
Richmond	7.75	6.75	6.75
Charlotte, N. C.	9.25	8.00	....
Hickory	....	8.25	....
Raleigh	9.25	7.75	....
Charleston, S. C.	8.25	6.75	....
Columbia	9.20	7.70	....
Spartanburg	10.00	8.50	....

*Effective Sept. 14, 1939, minimum retail resale price of 11.9c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w. price, thru territory, except New Jersey. While above posted prices continue at Atlantic City and Newark, dealers will pay net price of 8.6c per gal. for Esso; dealers having pumps marked only Esso, Esso Extra and Standard White gasoline will pay 8.1c per gal. for Esso.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	†† Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	6.7	8	*5	8.2
Borough of Richmond (Staten Is.)	6.7	8	*5	8.2
Albany, N. Y.	6.2	8	5	7.9
Binghamton, N. Y.	7.1	7.9	5	9.1
Buffalo, N. Y.	6.9	8.1	5	8
Jamestown, N. Y.	6.9	8.3	5	7.8
Plattsburg, N. Y.	6.7	9.1	5	8.5
Rochester, N. Y.	6.9	8.7	5	8.5
Syracuse, N. Y.	6.8	8.1	5	8.7
Bridgeport, Conn.	6.1	7	4	8.1
Danbury, Conn.	7.3	8.6	4	8.8
Hartford, Conn.	6.5	7.5	4	7.5
New Haven, Conn.	6.1	7.1	4	7
Bangor, Me.	6.7	7.6	5	8.1
Portland, Me.	6.3	8.3	5	8
Boston, Mass.	6.3	7.3	4	8.3
Concord, N. H.	7	9.2	5	8.9
Lancaster, N. H.	7.8	10.3	5	9.9
Manchester, N. H.	6.9	7	5	8.9
Providence, R. I.	6.2	7.7	4	8.3
Burlington, Vt.	6.9	9.0	5	8.5
Rutland, Vt.	7	9	5	8.9

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	9.9	10.6
†New York City	8.9	9.5
Rochester, N. Y.	10.7	11.4
Syracuse, N. Y.	11.6	12.3
Boston, Mass.	11.5	11.5
Bridgeport, Conn.	11.5	12
Hartford, Conn.	11	11.5
Providence, R. I.	11.5	12.5

Fuel Oils—T. W.

	Nos. 2 & 3
New York City	6.6
Albany, N. Y.	6.7
Rochester, N. Y.	7.2
Boston, Mass.	6.7
Bangor, Me.	7.2
Manchester, N. H.	7.3
Burlington, Vt.	7.4
Hartford, Conn.	6.9
New Haven, Conn.	6.9
Providence, R. I.	6.7

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

††Same prices apply for No. 1 fuel.

Discounts: Gasoline—To undivided dealers, 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7	8.5	5	10.5
Pittsburgh	8	9.5	5	10.5
Allentown	8	9.5	5	10.5
Erie	8	9.5	5	10
Scranton	7	9	5	10.5
Altoona	8	10	5	10.5
Emporium	8	10	5	10.5
Indiana	8	10	5	10.5
Uniontown	8	10	5	10.5
Harrisburg	8	9.5	5	10.5
Williamsport	8	9.5	5	10
Dover, Del.	....	8.5	5	10.5
Wilmington	....	8.5	5	10
Boston, Mass.	....	7.3	4	8.5
Springfield, Mass.	....	8.5	4	9.0
Worcester, Mass.	....	7.6	4	8.4
Fall River, Mass.	....	8	4	8.5
Hartford, Conn.	....	7.5	4	8.5
New Haven, Conn.	....	7.4	4	8.5
Providence, R. I.	....	7.7	4	8.5
Atlantic City, N. J.	....	8.6	4	8.4
Camden, N. J.	....	8.6	4	8.1
Trenton, N. J.	....	8.6	4	8.4
Annapolis, Md.	....	9.35	5	10
Baltimore, Md.	....	8.75	5	9
Hagerstown, Md.	....	9.85	5	10
Richmond, Va.	....	10.55	6	11
Wilmington, N. C.	....	10.35	7	10.8
Brunswick, Ga.	....	8	7	*11
Jacksonville, Fla.	....	7.5	8	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

	Fuel Oils—T.W. 1	2	3	4	5	6
Phila., Pa.	8.5	7.00	7.00	7.00	4.25	3.50
Allentown, Pa.	8.5	6.5	6.5	6.5	....	....
Wilmington, Del.	8.00	7.00	7.00	7.00	....	....
Springfield, Mass.	9.0	7.1	....	....	....	....
Worcester, Mass.	8.6	7	....	7	....	....
Hartford, Conn.	8.5	6.9	....	6.9	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same. At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	Divided Dlr.	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	10.5	9.5	12.5	5	8
Akron	10.5	8	9.5	5	8
Cincinnati	10.5	9	11.5	5	8
Cleveland	10.5	8.5	11	5	8
Columbus	10.5	9	11.5	5	8
Dayton	10.5	9	11.5	5	8
Marietta	10.5	9	11.5	5	8
Portsmouth	10.5	9.5	12.5	5	8
Toledo	10.5	7	8.5	5	8
Youngstown	10.5	8.5	11	5	7.5

Esso Aviation Gasoline—Thru Ohio

	Consumer T.W.	Gasoline Taxes
74 octane	15.5	5
80 octane	16.5	5
87 octane	17.5	5

S. O. Ohio (Cont'd)

†Naphthas — Statewide T.W.

S.R. Solvent	12.75
D.C. Naphtha	13.25
V.M.&P. Naphtha	13.25
Varnolene	13.25
Sohio Solvent	13.25

††Fuel Oils—T.W.

	No. 1	No. 2	No. 3
Toledo	7.00	7.00	6.50
Rest of Ohio	7.50	7.50	7.00

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1c federal & 4c state tax.

‡Prices at company-operated stations.

††Prices are for full compartment hose dumps; bucket dumps are 0.5c per gal. higher.

Discounts:

X-70 gasoline—to undivided dealers, 0.5c off dealer t.w.

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Naphthas—to contract consumers off t.w. prices: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard or Kyso (*Third Grade*)

	†Net Dealer ††Standard Crown	or Kyso	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	8.5	7.5	6	9.5
Lexington, Ky.	9.5	8	6	10
Louisville, Ky.	8.5	6.5	6	9
Paducah, Ky.	9	8	6	9
Jackson, Miss.	9	8	7	*9
Vicksburg, Miss.	9	8	7	*8.5
Birmingham, Ala.	9.5	8	*8	9
Mobile, Ala.	8.5	7	*9	8
Montgomery, Ala.	9	7.5	*9	*9
Atlanta, Ga.	9	7.5	7	*10
Augusta, Ga.	10	9	7	*9
Macon, Ga.	9.5	8.5	7	*10
Savannah, Ga.	9	8	7	*8
Jacksonville, Fla.	7.5	6.5	8	8
Miami, Fla.	7.5	6.5	8	8
Pensacola, Fla.	8.5	7	*9	8.5
Tampa, Fla.	9	8	8	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices except at Tampa. Tampa consumer t.w. prices are Crown 12c, Standard 10.5c.

††Standard, a leaded 3rd grade, is sold in Ky., Ala., Ga., and Fla.; Kyso, an unleaded 3rd grade, is sold in Miss.

Discounts:

Gasoline—Tampa: Temporary discount of 3c on Crown, 2.5c on Standard, off Consumer T.W. prices which see above.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Red Crown Dealer Prices Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.1	9.1	6.9	4	10
Decatur, Ill.	9.6	8.1	6	4	9.5
Joliet, Ill.	11.1	9.6	6.7	4	10
Peoria, Ill.	11.1	8.7	8.1	4	10
Quincy, Ill.	10.9	9.4	6.7	4	9.8
Indianapolis, Ind.	11.8	9.3	8.4	5	*10.2
Evansville, Ind.	11.6	10.1	9.1	5	*10.5
South Bend, Ind.	11.8	10.3	8.8	5	*10.2
Detroit, Mich.	9.6	8.1	7.1	4	7.6
Grand Rapids, Mich.	9.2	7.7	7.2	4	9
Saginaw, Mich.	8.2	8.7	8.2	4	9.3
Green Bay, Wis.	11.9	10.4	9.9	5	10.3
Milwaukee, Wis.	11.3	9.8	9.3	5	10.2
La Crosse, Wis.	11.5	10	9.5	5	10.4
Minneapolis-St. Paul	11.5	8.5	7.5	5	10.4
Duluth, Minn.	11.9	10.4	9.9	5	10.8
Mankato, Minn.	11.5	10	9.5	5	9
Des Moines, Ia.	10.9	8.4	7.4	4	*9.8
Davenport, Ia.	11.1	9.6	8.4	4	*10
Mason City, Ia.	11.3	9.8	6.9	4	*10.2
St. Louis, Mo.	10.7	8.7	7.5	*4	8
Kansas City, Mo.	10.4	8.9	6.9	*4	8
St. Joseph, Mo.	10.4	8.0	7.5	*4	7.9
Fargo, N. D.	12.7	11.2	8.8	5	11.6
Huron, S. D.	12	10.5	10	5	10.9
Wichita, Kans.	9.3	7.6	5.5	4	7

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NP N for Feb. 21, 1940.*

These prices in effect June 24, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.

S. O. Indiana (Cont'd)

Stanavo Aviation 73 Octane

Chicago,†Ill.	14.9	
Detroit, Mich.	16.5	4
Milwaukee, Wis.	15.1	5
Minneapolis, Minn.	15.3	5
St. Louis, Mo.	14.5	3
Kansas City, Mo.	14.2	*4
Fargo, N. D.	16.5	5
Huron, S. D.	15.8	5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
	(Prices are base prices before discounts)			
Chicago	12.7	13	12.4	4
Detroit	15.2	14.2	15.7	4
K. C., Mo.	12.9	13.9	13.4	1
St. Louis	13.2	14.2	12.4	1
Milwaukee	13.8	14.8	14.3	5
Minneap'ls	14	15	12.7	5

†Fuel Oils—T.W.	No. 1 Fuel	Stanolex Furnace
Chicago	**6.50	6.50
Indianapolis	....	*7.5
Detroit	....	6.6
Milwaukee	8.2	7.7
Minneapolis	7.5	7.5
St. Louis	7.0	6.50
Kansas City	6.8	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1c federal tax and state taxes.

†Prices for small-lot deliveries range up to 2c higher than above prices.

**For 400 gals. & over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.5	8.9	6	9.0
McCook	11	7.9	6	9.5
Norfolk	11	8.9	6	9.9
North Platte	11.3	8.5	6	10.2
Scottsbluff	11.9	9	6	10.5

S. O. Louisiana

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.25	9.75	7.5	10
Alexandria, La.	6.75	9.25	8	*9.5
Baton Rouge, La.	6.75	9.25	8	*9.5
New Orleans, La.	5.75	8.25	8	*9
Lake Charles, La.	6.75	9.25	8	*9
Shreveport, La.	5.5	8	8	*8
Lafayette, La.	7	9.5	8	*9
Bristol, Tenn.	10.25	9.50	8	12
Chattanooga, Tenn.	9.5	11	8	12
Knoxville, Tenn.	10	11.5	8	12.5
Memphis, Tenn.	8	9.5	8	11
Nashville, Tenn.	9	8.4	8	11.5

*New Orleans kerosine price is ex 1c parish tax, and all Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	6	10	5	6
Ft. Worth, Tex.	6	10	5	7
Houston, Tex.	8.5	12.5	5	8
San Antonio, Tex.	7	11	5	8

Thriftane (Leaded, 67 Octane, Purple Gasoline)

Dallas	5	8	5
Ft. Worth	5	8	5
Houston	7	10.5	5
San Antonio	5	8	5

74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	6	5	5
Ft. Worth, Tex.	6	5	5
Wichita Falls, Tex.	8	5	5
Amarillo, Tex.	8	5	5
Tyler, Tex.	7	5	5
El Paso, Tex.	8	7	5
San Angelo, Tex.	7	5	5
Waco, Tex.	7	5	5
Austin, Tex.	8.5	7	5
Houston, Tex.	8.5	7	5
San Antonio, Tex.	7	5	5
Port Arthur, Tex.	8.5	5	5

Continental Oil

Conoco Bronz-z-z (*Regular Grade*)

	†T.W.	Dealer	Gasoline Taxes	Kerosine ‡T.W.
Denver, Col.	8	..	5	10.5
Grand Junction, Col.	12.5	..	5	12.5
Pueblo, Col.	10	..	5	9
Casper, Wyo.	11.5	..	5	11.5
Cheyenne, Wyo.	9	..	5	11
Billings, Mont.	12	..	6	12
Butte, Mont.	9	..	6	13
Great Falls, Mont.	12	..	6	12
Helena, Mont.	10	..	6	12.5
Salt Lake City, Utah	10.5	..	5	14
Boise, Ida.	*14.1		6	16
Twin Falls, Ida.	*15.1	*15.1	6	16.5
Albuquerque, N. M.	8	..	*6.5	9.5
Roswell, N. M.	7	..	*6.5	8
Santa Fe, N. M.	8.5	..	*7	9.5
Ft. Smith, Ark.	9.5	..	5	7.5
Little Rock, Ark.	9.25	..	7.5	8
Texarkana, Ark.	8	..	5	7
Muskogee, Okla.	7	..	5	7
Oklahoma City, Okla.	5	..	5	6.5
Tulsa, Okla.	6	..	5	6

Demand Gasoline (*Third Grade*)

Denver, Col.	6	..	5	....
Grand Junction, Col.	11.5	..	5	....
Pueblo, Col.	8	..	5	....
Casper, Wyo.	10.5	..	5	....
Cheyenne, Wyo.	8	..	5	....
Billings, Mont.	11	..	6	....
Butte, Mont.	8	..	6	....
Great Falls, Mont.	11	..	6	....
Helena, Mont.	9	..	6	....
Salt Lake City, Utah	8.5	..	5	....
Boise, Ida.	*13.1		5	....
Twin Falls, Ida.	*14.1	*14.1	6	....
Albuquerque, N. M.	7	..	*6.5	....
Roswell, N. M.	6	..	*6.5	....
Santa Fe, N. M.	7.5	..	*7	....
Ft. Smith, Ark.	6.25	..	5	....
Little Rock, Ark.	7.5	..	7.5	....
Texarkana, Ark.	5	..	5	....
Muskogee, Okla.	6	..	5	....
Oklahoma City, Okla.	4.50	..	5	....
Tulsa, Okla.	5	..	5	....

Conoco Special Gasoline (Aviation)

	T.W. & Dealer Price	Gasoline Taxes
Denver, Colo.	15	5
Cheyenne, Wyo.	15.5	5
Helena, Mont.	22.5	6
Salt Lake City, Utah	18	5
Albuquerque, N. M.	14	*6.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque and Roswell, 0.5c; Santa Fe, 1c. Idaho prices include 0.1c to cover 1-mill tax for toll bridges.

†To consumers; also to dealers at points where no dealer prices are shown.

‡To consumers and dealers.

S. O. California

Standard Gasoline (*Regular Grade*)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal.	12	13	4	11.5
Los Angeles, Cal.	11.5	12.5	4	10
Fresno, Cal.	13	14	4	12.5
Phoenix, Ariz.	14	15	6	*12.5
Reno, Nev.	14	15	5	13.5
Portland, Ore.	12.5	13.5	6	13.5
Seattle, Wash.	12.5	13.5	6	13.5
Spokane, Wash.	14	15	6	16.5
Tacoma, Wash.	12.5	13.5	6	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal.	10	11	4	....
Los Angeles, Cal.	9.5	10.5	4	....
Fresno, Cal.	11	12	4	....
Reno, Nev.	12	13	5	....
Phoenix, Ariz.	11	12	6	....
Portland, Ore.	10.5	11.5	6	....
Seattle, Wash.	10.5	11.5	6	....
Spokane, Wash.	12	13	6	....
Tacoma, Wash.	10.5	11.5	6	....

S. O. California (Cont'd)

Stanavo Aviation Gasoline

Phoenix, Ariz.	17.5	..	6	....
Los Angeles, Cal.	15	..	4	....
San Francisco, Cal.	15.5	..	4	....
Reno, Nev.	17.5	..	5	....
Portland, Ore.	16	..	6	....
Seattle, Wash.	16	..	6	....
Spokane, Wash.	19	..	6	....

*Taxes: Arizona kerosine prices are ex 5c state tax.

Discounts:

To 100% dealers—3c off t.w. on Standard and Stanavo Aviation; 2c off t.w. on Flight.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline

	(*Regular Grade*) T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	15.5	8	16
Toronto, Ont.	15.5	8	16
Brandon, Man.	21	7	22
Winnipeg, Man.	19.5	7	20.5
Regina, Sask.	18	7	20
Saskatoon, Sask.	21	7	23
Edmonton, Alta.	18	7	20
Calgary, Alta.	16	7	18
Vancouver, B. C.	16	7	23
Montreal, Que.	16	8	16.5
St. John, N. B.	15	10	19
Halifax, N. S.	15	10	19

Discounts: To undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price, and except Vancouver, B. C. where both divided and undivided dealers get 2c off t.w. price. Divided dealers pay t.w. price thru territory.

Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso Gasoline:

Raleigh dealer t. w. cut 0.65c, June 20.
Salisbury dealer t. w. cut 1.45c, June 20.

Socony-Vacuum—Mobilgas:

Consumer t. c. prices cut June 20 at following points: Albany, Plattsburg, Bridgeport, Hartford, New Haven, Concord, Lancaster, and Manchester 0.4c; Bangor, Boston, and Burlington 0.2c; Portland and Providence 0.3c; Rutland cut 0.5c. Binghamton consumer t. c. cut 0.2c, June 11.

"Split" dealer t. w. prices cut June 20 at following points: Metropolitan N. Y. City, and Borough of Richmond 0.3c; Albany 0.6c; Plattsburg, Concord, and Rutland 0.5c; New Haven, Lancaster, and Burlington 0.4c; Portland and Boston 0.2c; Providence 0.05c.

Bangor "split" dealer t. w. cut 1.5c, June 19.

Socony-Vacuum—Kerosine T. W.:

Hartford cut 0.6c, June 21.
New Haven cut 1.1c, June 21.
Manchester up 0.1c, May 29.

Atlantic Refining—White Flash:

Scranton commercial t. c. cut 0.5c, June 19.

Boston dealer t. w. cut 0.2c, Springfield 0.5c, New Haven 0.4c, and Providence 0.3c, all on June 20.

S. O. Indiana—Kerosine:

Mankato t. w. cut 1.4c, June 20.

Continental Oil—Conoco Bronz-z-z and Demand:

Santa Fe t. w. cut 2c, April 22; dealer prices eliminated.
Roswell t. w. cut 2.5c, June 14; dealer prices eliminated.
Butte t. w. cut 1c, June 12.

Continental Oil—Kerosine:

Albuquerque and Santa Fe t. w. cut 0.5c, June 18.

Coming Meetings

JULY

Conference of Oil Burner Industry, Griswold Hotel, Eastern Point, Conn., Mon., July 8.
North Carolina Independent Oil Jobbers Assn., Summer Meeting, Wrightsville Beach, N. C., Fri.-Sun., July 12-14.

AUGUST

National Assn. of Petroleum Retailers, 8th Annual Convention, LaSalle Hotel, Chicago, Ill., Tues.-Thurs., Aug. 20-22.

SEPTEMBER

American Society of Mechanical Engineers, Spokane, Wash., Tues.-Thurs., Sept. 3-5.
American Chemical Society, Detroit, Mich., Mon.-Fri., Sept. 9-13.
Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham, N. Y., Tues., Sept. 17.
National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 18-20.

OCTOBER

National Lubricating Grease Institute, Annual Convention, Stevens Hotel, Chicago, Ill., Mon.-Tues., Sept. 30, Oct. 1.
North American Gasoline Tax Conference, Whitley Hotel, Montgomery, Ala., Thurs.-Sat., Oct. 3-5.
Western Petroleum Refiners Assn., Regional Meeting, Wichita, Kansas, Fri., Oct. 4.
American Gas Assn., Atlantic City, New Jersey, Mon.-Thurs., Oct. 7-10.
National Safety Congress & Exposition, Hotel Stevens, Chicago, Ill., Mon.-Fri., Oct. 7-11.
Indiana Independent Petroleum Assn., Fall Convention, Hotel Severin, Indianapolis, Ind., Wed. and Thurs., Oct. 9-10.
Automobile Manufacturers Assn., 1940 Autoshow, New York, Sat., Oct. 12.
Independent Petroleum Assn. of America, Annual Meeting, Dallas, Texas, Wed.-Fri., Oct. 16-18.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Calif., Thur.-Fri., Oct. 17-18.
Western Petroleum Refiners Assn., Regional Meeting, Shreveport, La., Fri., Oct. 25.
Oil Trades Assn. of New York, Annual Banquet Waldorf-Astoria Hotel, New York, N. Y., Tues., Oct. 29.

NOVEMBER

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Nov. 1.
Texas Mid-Continent Oil & Gas Assn., Fort Worth, Tex., Thurs.-Sat., Oct. 31-Nov. 2.
American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs-Fri., Nov. 7-8.
American Petroleum Institute, 21st Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 11-15.
Arkansas Oil Dealers Assn., Little Rock, Ark., Thurs., Nov. 14.
Arkansas Society for Testing Materials, Hotel Mayflower, Washington, D. C., Thurs, Nov. 14.

DECEMBER

Exposition of Chemical Industries, Grand Central Palace, New York, N. Y., Sun.-Fri., Dec. 1-6.
American Institute of Chemical Engineers, New Orleans, La., Mon.-Fri., Dec. 2-6.

FEBRUARY, 1941

Iowa Independent Oil Jobbers Assn., Des Moines, Ia., Feb. 26-28.

MARCH, 1941

American Society for Testing Materials, Hotel Mayflower, Washington, D. C., March 3-7.
Indiana Independent Petroleum Assn., 1941 Spring Convention & Refiners' & Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., March 11-13.

APRIL, 1941

American Assn. of Petroleum Geologists, 26th Annual Meeting, Rice Hotel, Houston, Tex., April 2, 3 and 4.
National Petroleum Assn., semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

JUNE, 1941

American Society for Testing Materials, 44th Annual Meeting, Palmer House, Chicago, Ill., June 23-27.

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Government Repeats Warning to Use Imperial Units

WASHINGTON—Goods marketed in pint, quart and gallon sizes in Canada, including lubricating oil, should be marked in units of the Imperial gallon rather than the United States liquid measure, U. S. Commerce Department warns.

Department of Inland Revenue of Ottawa points out, U. S. department said, that under the Canadian Weights and Measures Act, the U. S. liquid measure is illegal for trade use in Canada, as the Canadian legal gallon (the Imperial gallon) is 20% larger than the U. S. gallon. Commerce Department reported Canadian government has recently called attention to fact that containers of tinned and bottled goods, including cleaners, motor oils, in pint, quart and gallon sizes imported from the U. S. are incorrectly marked in units of the U. S. liquid (or wine) measure. When the word "gallon" is used on goods to be sold in Canada, the quantity must be 160 fluid ounces by volume and the proper marking of a container holding one U. S. gallon would be "5/6 Imperial gallon."

The Imperial gallon contains 277.42 cubic inches while the U. S. gallon contains 231 cubic in.

Cleaning Formula For Upholstery Given

N. P. N. News Bureau

NEW YORK—With upholstery spots turning up as regularly as summer's warm weather, the Glycerine Producers' Assn. states that a practical formula for an upholstery cleaner is given in a recent government bulletin on "Washing, Cleaning and Polishing Materials". This formula follows:

Pure olive oil soap	2 oz.
Pure cocoanut oil soap	2 oz.
Hot water	3 gal.
Glycerine	4 oz.
Borax	1 oz.
Ethylene chloride	2 oz.

Soaps should be dissolved in hot water, then glycerine and borax added, says this association. When solution becomes lukewarm, add the ethylene chloride.

Precautions are given by the Glycerine association as follows: "Before using this preparation, a trial should be made on a small, inconspicuous area and care should be taken throughout that the fabric does not become any wetter than necessary. It is advocated that the solution be applied sparingly to a square foot or so at a time, by means of a soft brush, cloth or sponge, using a quick, light stroke to create fluffy suds over the area.

"To prevent too deep penetration, the suds should be quickly wiped off, or pressed off with a dull knife. The rest of the soap is removed by applying clean cloths wrung out of warm water. The use of a vacuum cleaner with a rubber hose attachment is also suggested."

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (June 18, 1940)

Bradford-Allegany $2.25
Southwest Penna. $1.90
Eureka (West Va.) $1.84
Corning, O. (Nov. 4, 1939) $1.12

Posted by Tide Water Assoc. Oil Co. (June 18, 1940)

Bradford-Allegany $2.25

Posted by The Pennzoil Co. (June 18, 1940)

National Transit $2.18*

Posted by Valvoline Pipe Lines (June 18, 1940)

Bradford (Elk & McKean Counties, Pa.) $2.25
Warren, Forest, Venango, Clairon & Butler Counties, Pa. $2.18
Allegheny, Beaver, Washington & Greene Counties, Pa. $1.90
West Virginia $1.84
South Eastern Ohio $1.80

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.13 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (Oct. 9, 1939)

Midland, Midland County $1.02
Sherman $0.97
Clare-Freeman $0.97

Posted by Simrall Corp. (Oct. 9, 1939)

Crystal, Greendale, Porter, Vernon and Wise $1.02
Beaverton, Buckeye, Bentley, Edenville $1.00
Freeman and Redding $0.97
Arenac $0.82
West Branch (Nov. 1, 1939) $0.85

Posted by Sohio Corp. (Michigan Division)

Allegan & Kent Counties (April 27, 1940) $1.08
Van Buren County (May 1, 1940) $1.08

Posted by Bay Pipe Line Corp. (Oct. 9, 1939)

Bentley and Buckeye $1.00
Saginaw and Wise..$1.02 Clare $0.76

ILLINOIS-INDIANA-KENTUCKY

Posted by Ohio Oil Co. (June 8, 1939)

Illinois and Western Indiana $0.95
Illinois Basin $1.05

Posted by Sohio Corp.

Illinois Basin:
Salem (Lake Centralia) (Oct. 21, 1939) $1.05
Balance of Illinois Basin (June 8, 1939) $1.05
Griffin (So. Ill.-Ind.) pool (May 25, 1940) $1.00

Posted by Carter Oil Co. (June 10, 1939)

Louden, Fayette County, Ill. $1.05

Posted by Mohawk Oil Lines, Inc. (June 1, 1940)

Southern Ill. heavy..$0.90 light $1.00

Posted by Ashland Oil & Transportation Co. (June 9, 1939)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River..$1.02 Kentucky River...$1.10

Posted by Sohio Corp. (June 9, 1939)

Birk City, Ky. Area $0.90
Corydon, Ky. Area (Henderson) $0.90

Posted by Owensboro-Ashland Co.

Owensboro, Ky. Area (June 9, 1939) $1.09

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Alberta Turner Valley (Jan. 5, 1938)
(Prices f.o.b. field tankage)

Crude Oil

40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above $2.14

Absorption Gasoline

90% Rec., 20 lb. Reid v.p. $1.94
90% Rec., 17 lb. Reid v.p. $2.08

*MID-CONTINENT—Oklahoma-Kansas

	S. O. Indiana	Carter Mag-nolia	Shell	Conti-nental Texas Co.	Sin-clair Prairie
Below 21°	$0.70	$0.60	....	....	....
21-21.9	.72	.63	....	....	....
22-22.9	.74	.66	....	....	....
23-23.9	.76	.69	....	....	....
24-24.9	.78	.72	....	....	....
25-25.9	.80	.75	....	....	$0.58
26-26.9	.82	.78	....	....	.63
27-27.9	.84	.81	....	....	.68
28-28.9	.86	.84	$0.86	....	.73
29-29.9	.88	.87	.88	....	.78
30-30.9	.90	.90	.90	....	.82
31-31.9	.92	.92	.92	....	.86
32-32.9	.94	.94	.94	....	.90
33-33.9	.96	.96	.96	....	.96
34-34.9	.98	.98	.98	....	.98
35-35.9	1.00	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10	1.10

*Effective in 1938 by Carter Oil, Oct. 13, posting in Okla. only; Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12. Aug. 31, 1939, by Sinclair-Prairie.

*North-North Central and Central Texas

	Stanolind	Sinclair Texas Co. Continental Magnolia
Below 21°	$0.60	....
21-21.9	.62	....
22-22.9	.64	....
23-23.9	.66	....
24-24.9	.68	$0.79
25-25.9	.70	for
26-26.9	.72	oil
27-27.9	.74	below
28-28.9	.76	29°.
29-29.9	.78	.81
30-30.9	.80	.83
31-31.9	.82	.85
32-32.9	.84	.87
33-33.9	.86	.89
34-34.9	.88	.91
35-35.9	.90	.93
36-36.9	.92	.95
37-37.9	.94	.97
38-38.9	.96	.99
39-39.9	.98	1.01
40 & above	1.00	1.03

*Effective Oct. 11, 1938 by Continental, in North Tex.; Oct. 12, 1938, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, 1938, in N. and N. Central Texas; Oct. 5, 1939 by Sinclair Prairie in Mexia and N. Cent. Texas.

Jefferson County, Texas—Beaumont

(Posted by Magnolia Petroleum Co., Effective Oct. 2, 1939, and by Stanolind Oil & Gas Co., for West Beaumont, Effective Oct. 2, 1939)

Below 20°	$0.86	30-30.9	$1.08
20-20.9	.88	31-31.9	1.10
21-21.9	.90	32-32.9	1.12
22-22.9	.92	33-33.9	1.14
23-23.9	.94	34-34.9	1.16
24-24.9	.96	35-35.9	1.18
25-25.9	.98	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

*West Central Texas (Aug. 11, 1939)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Huskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.

Effective Aug. 29, 1939, Shell posted in Fisher county, Tex., prices 3c lower than Humble's West Central Texas prices; Shell's schedule begins with below 25, at $0.68 and ends with 40 & above, at $1.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

*East Central Texas (Aug. 11, 1939)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.
(Oct. 2, 1939)

Cayuga, Anderson county $0.78

*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

	Humble (Aug. 11, 1939)		Texas Co. (Oct. 2, 1939)	
	Gray County	Carson Hutchinson	Sweet	Sour
28-28.9	$0.72	$0.67	....	....
29-29.9	.74	.69	....	....
30-30.9	.76	.71	....	....
31-31.9	.78	.73	....	....
32-32.9	.80	.75	....	....
33-33.9	.82	.77	....	....
34-34.9	.84	.79	$0.84	$0.79
35-35.9	.86	.81	.86	.81
36-36.9	.88	.83	.88	.83
37-37.9	.90	.85	.90	.85
38-38.9	.92	.87	.92	.87
39-39.9	.94	.89	.94	.89
40 & above	.96	.91	.96	.91

Effective Aug. 31, 1939, Sinclair Prairie met Humble in Panhandle Texas. Dec. 3, 1938, Magnolia posted same schedule as Humble.

*EAST TEXAS

By Humble, Shell, Sinclair-Prairie, Stanolind, Gulf, Magnolia, Texas Co., Tide Water-Associated $1.10

*Effective dates: Aug. 11, 1939, by Humble and Tide Water-Associated; Aug. 29, 1939, by Stanolind; Oct. 2, 1939 by Sinclair Prairie; Oct. 5, 1939 by Shell; Oct. 12, 1938, by Magnolia, Texas Co.; Oct. 13, 1938, by Gulf.

*Includes Cherokee, Gregg, Rusk, Smith and Upshur counties.

Posted by Shell Oil Co., Inc. (Oct. 5, 1939)

Polk County, Tex. (Livingston area) $1.10

NORTHEAST TEXAS

(Posted by Humble, Oct. 2, 1939)

Talco $0.65

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:
Magnolia posts below 25° at $0.73, plus 2c differential for each degree, to top grade of 40 & above, at $1.05.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County $1.05

(a) WEST TEXAS and NEW MEXICO

	Humble	Stanolind	Shell	Texas Co. Sinclair (c)
Below 20°	$0.53	....	$0.53	....
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	$0.67	.59	....
23-23.9	.61	for	.61	....
24-24.9	.63	oil	.63	....
25-25.9	.65	Below	.65	$0.65
26-26.9	.67	26°.	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Posted by Magnolia Petroleum Co.

(Oct. 12, 1938 in West Texas;
Oct. 15, 1939 in Lea County, N. Mex.)

	West Texas	N. Mex.		West Texas	N. Mex.
Below 25	$0.63	$0.63	33-33.9	$0.81	$0.81
25-25.9	.65	.65	34-34.9	.83	.83
26-26.9	.67	.67	35-35.9	.85	.85
27-27.9	.69	.69	36-36.9	.87	.87
28-28.9	.71	.71	37-37.9	.89	for
29-29.9	.73	.73	38-38.9	.91	oil
30-30.9	.75	.75	39-39.9	.93	36 &
31-31.9	.77	.77	40 & over.	.95	above
32-32.9	.79	.79			

Note: Magnolia's West Texas postings are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler counties.

Pecos County, West Texas

(Posted by Humble Aug. 11, 1939 and Shell, Aug. 29 '39)

Pecos $0.78
Yates Shallow Pool (Shell only) ..... .65

Posted by Sinclair Prairie Oil Marketing Co.

(Aug. 31, 1939)

Eddy county, N. Mex. $0.77

(a) Effective Aug. 11, 1939 by Humble; Shell Oil, Aug. 29, 1939; by The Texas Co., Oct. 12, 1938; Stanolind, Aug. 29, 1939; Sinclair Prairie, Aug. 31, 1939.

(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.

Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Yoakum, Lea; Stanolind in Hendrick and Henderson field, Winkler county; Texas Co. in Ward, Winkler and Lea

Posted by Continental Oil Co. (Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico; gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co. (Oct. 11, 1938)
Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co. (Aug. 11, 1939)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoborski crudes $0.96
Van crude $0.93
Conroe $1.27
(Oct. 2, 1939)
Flour Bluff and Jim Wells County $1.23
(Sept. 14, 1939)
Hardin, Liberty county $1.10

Oct. 12, '38, Magnolia posted $0.96 in Darst Creek; $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.

Oct. 12, '38, The Texas Co. posted $0.96 in Darst Creek.

(Continued on next page)

CRUDE OIL PRICES

(Continued from preceding page)

***Anahuac-Dickinson** (Oct. 2, 1939)

Below 20°	$0.81	30-30.9	$1.03
20-20.9	.83	31-31.9	1.05
21-21.9	.85	32-32.9	1.07
22-22.9	.87	33-33.9	1.09
23-23.9	.89	34-34.9	1.11
24-24.9	.91	35-35.9	1.13
25-25.9	.93	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Anahuac-Dickinson includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand) and Turtle Bay.

Raccoon Bend (Deep sand crude) Tomball and Satsuma (Aug. 11, 1939)

22-22.9	$0.95	32-32.9	$1.15
23-23.9	.97	33-33.9	1.17
24-24.9	.99	34-34.9	1.19
25-25.9	1.01	35-35.9	1.21
26-26.9	1.03	36-36.9	1.23
27-27.9	1.05	37-37.9	1.25
28-28.9	1.07	38-38.9	1.27
29-29.9	1.09	39-39.9	1.29
30-30.9	1.11	40 & above	1.31
31-31.9	1.13		

Dec. 3, 1938, Magnolia posted above price and gravity schedule in Tomball. Effective Aug. 29, 1939, Stanolind met Humble in Tomball, except that Stanolind's schedule begins with below 29 at $1.07.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(†) (For effective dates, see footnote)

	*N. La.-Ark. Sweet	Bunkie-Eola, La.	*South La. Sour	*Ark. Sour	Baton Rouge-University
Below 20°					$0.79
20-20.9	$0.73	$0.83	‡$0.74	$0.63	.82
21-21.9	for	for	.77	for	.85
22-22.9	oil	oil	.80	oil	.88
23-23.9	Below	Below	.83	Below	.91
24-24.9	25°	25°	.86	25°	.94
25-25.9	.75	.85	.89	.65	.97
26-26.9	.77	.87	.92	.67	1.00
27-27.9	.79	.89	.94	.69	1.02
28-28.9	.81	.91	.96	.71	1.04
29-29.9	.83	.93	.98	.73	1.06
30-30.9	.85	.95	1.00	.75	1.08
31-31.9	.87	.97	1.02	.77	1.10
32-32.9	.89	.99	1.04	.79	1.12
33-33.9	.91	1.01	1.06	.81	1.14
34-34.9	.93	1.03	1.08	.83	1.16
35-35.9	.95	1.05	1.10	.85	1.18
36-36.9	.97	1.07	1.12	.87	1.20
37-37.9	.99	1.09	1.14	.89	1.22
38-38.9	1.01	1.11	1.16	.91	1.24
39-39.9	1.03	1.13	1.18	.93	1.26
40 & above	1.05	1.15	1.20	.95	1.28

(Aug. 30, 1939)

Smackover, Ark.	$0.73
Cotton Valley Distillate	$1.20

*N. La.-Ark. Sweet includes Caddo, Cotton Valley, Cross Lake, De Soto, Haynesville, Homer, Rodessa, Sabine and Sligo, La. crudes, and Miller county, Ark. S. La. Sour includes Choctaw, Darrow, N. Crowley, Roanoke and St. Martinsville. S. Ark. Sour includes Buchner, Magnolia and Village pools.

†N. La.-Ark. Sweet crude and S. La. Sour effective Aug. 30, 1939, except Cross Lake, La., Sept. 7, Baton Rouge-Univ., Sept. 11, and Bunkie and Eola, Oct. 23, 1939; and Ark. Sour, Sept. 13, 1939.

‡For Below 21°.

Effective Sept. 8, 1939, Gulf Refg. Co. met S. O. La's. N. La.-Ark. Sweet prices in Bull Bayou, Caddo, Crichton, De Soto, Haynesville, Homer, and El Dorado

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Jan. 28, 1937)	$1.02

Posted by Continental Oil Co.

(Oct. 11, 1938)

Tepetate and Ville Platte, La.	$1.03

(Jan. 1, 1939)

Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

(Aug. 14, 1939)

Allison area, Shreveport field	$0.95

Lisbon, N. La. (Sept. 14, 1939)

27-27.9	$0.66	32-32.9	$0.76
28-28.9	.68	33-33.9	.78
29-29.9	.70	34-34.9	.80
30-30.9	.72	35 & above	.82
31-31.9	.74		

Lisbon prices met by Gulf, Sept. 14.

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

GULF COASTAL FIELDS

(a) (For effective dates, see footnote)

	Continental Humble Sinclair Stanolind	Refugio Crude (Humble, Continental)	Texas Co.	Shell
Below 20	$0.86	$0.91	$0.86 (b)	$0.79
20-20.9	.88	.93	.88	.81
21-21.9	.90	.95	.90	.83
22-22.9	.92	.97	.92	.86
23-23.9	.94	.99	.94	.89
24-24.9	.96	1.01	.96	.92
25-25.9	.98	1.03	.98	.95
26-26.9	1.00	1.05	1.00	.98
27-27.9	1.02	1.07	1.02	1.00
28-28.9	1.04	1.09	1.04	1.02
29-29.9	1.06	1.11	1.06	1.04
30-30.9	1.08	1.13	1.08	1.06
31-31.9	1.10	1.15	1.10	1.08
32-32.9	1.12	1.17	1.12	1.10
33-33.9	1.14	1.19	1.14	1.12
34-34.9	1.16	1.21	1.16	1.14

(Continued in next column)

35-35.9	1.18	1.23	for oil	for oil
36-36.9	1.20	1.25	oil	oil
37-37.9	1.22	1.27	34° &	34° &
38-38.9	1.24	1.29	above.	above.
39-39.9	1.26	1.31		
40 & above	1.28	1.33		

(a) Effective Oct. 2, 1939 by Continental, Humble and Texas Co.; Oct. 3, 1939 by Sinclair and Stanolind; Aug. 29, 1939 by Shell. Stanolind's lowest grade is below 21, at $0.88. Refugio, effective Oct. 2, '39 by Humble.

(b) Shell posts these prices in Iowa district, Black Bayou and White Castle, La.; prices in Iowa district have 2 lower grades: below 18, at $0.75, 18-18.9, $0.77; and 19-19.9, is $0.79.

Note: Humble's Gulf Coast prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mirando which includes Duval, Jim Hogg, Webb and Zapata counties and Heyser and Placedo fields; Mykawa, Sugarland, Thompsons and Webster.

Humble's prices in Refugio include crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Stanolind's prices apply in High Island and Spindletop; also in Clinton, Hastings and South Houston, where, effective Jan. 1, 1940, lowest grade is below 21° at $0.85; rest of schedule same as other Gulf Coast. Magnolia posts Mirando, effective Oct. 2, same prices as Humble. Texas Co.'s prices are in Texas and La., Gulf Coast; its prices on Refugio are same as Humble's up to 28 gravity; 28 & above, $1.09; on Duval-Mirando same as Humble's up to 28; 28 & above, $1.04; it posts Golden Meadow, La., 24-30 grav., $0.90, plus 2c differential, to 40 & above, $1.10.

Posted by Shell Oil Co., Inc. (Aug. 29, 1939)

Gibson field, Terreborne Parish, La.	$1.04

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Iles, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo.	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co. (Oct. 11, 1938)

Elk Basin, Wyo.	$0.90	Rock Creek	1.00
Grass Creek, light	0.90	Lance Creek	0.77
Dry Creek, Mont.			0.92
Grass Creek, heavy (May 1, 1938)			$0.50
Sunburst, Mont. (Nov. 16, 1937)			$0.90

Posted by Continental Oil Co.

(Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Coles Levee Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	....	....	$0.60	$0.60	$0.60	$0.60	$0.60	....	$0.42
15-15.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.44
16-16.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.45
17-17.9	.65	.64	.63	.68	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.46
18-18.9	.65	.64	.63	.71	.65	.65	....	.68	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	....
19-19.9	.69	.64	.67	.75	.70	.69	....	.72	.61	.65	.62	.63	....	....	....	.60	.64	.64	.64	.61	$0.60	....
20-20.9	.73	.64	.72	.79	.76	.74	....	.75	.65	.69	.62	.67	....	....	....	.60	.69	.69	.69	.62	.60	....
21-21.9	.78	.64	.76	.82	.81	.78	....	.79	.69	.73	.62	.72	$0.63	....	....	.64	.74	.74	.74	.66	.60	....
22-22.9	.82	.69	.81	.86	.86	.82	....	.82	.73	.77	.66	.76	.63	....	....	.68	.79	.79	.78	.70	.63	....
23-23.9	.86	.75	.85	.89	.92	.86	$0.71	.86	.78	.82	.71	.81	.67	....	....	.71	.84	.84	.82	.74	.67	....
24-24.9	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	....	....	.75	.89	.89	.86	.78	.71	....
25-25.9	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	....	....	.79	.94	.94	.90	.82	.75	....
26-26.9	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	....	....	.83	.99	.99	.95	....	....	....
27-27.9	1.03	.97	1.03	1.04	....	1.03	.94	1.00	.94	.98	.89	.98	.87	$0.83	$0.92	.87	1.04	1.04	.99	....	....	....
28-28.9	1.07	1.02	1.07	1.07	....	1.07	.99	1.03	.98	....	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	....	....	....
29-29.9	1.10	1.07	1.11	1.10	....	1.10	1.04	1.06	1.02	....	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	....	....	....
30-30.9	1.14	1.12	1.15	1.14	....	1.14	1.09	1.09	....	....	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	....	....	....
31-31.9	....	....	....	1.17	....	1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24	....	....	....	....
32-32.9	....	....	....	1.20	....	1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	Kettleman Hills		....	....
33-33.9	....	....	....	....	....	....	1.24	....	$1.21	....	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	....	$1.12	....	....
34-34.9	....	....	....	....	....	....	1.29	....	1.25	....	1.20	1.26	1.19	1.10	1.16	1.14	....	....	....	1.17	....	....
35-35.9	....	....	....	....	....	....	1.34	....	1.29	....	1.24	....	1.23	1.14	1.20	....	....	....	....	1.21	....	....
36-36.9	....	....	....	....	....	....	1.39	....	1.33	....	1.28	....	1.27	1.18	1.23	....	....	....	....	1.25	....	....
37-37.9	....	....	....	....	....	....	1.44	....	1.37	....	1.33	....	1.31	1.22	1.26	....	....	....	....	1.29	....	....
38-38.9	....	....	....	....	....	....	1.49	....	....	....	1.37	....	1.36	1.25	1.30	....	....	....	....	1.33	....	....
39-39.9	....	....	....	....	....	....	1.54	....	....	....	1.42	....	....	1.29	1.34	....	....	....	....	1.38	....	....
40-40.9	....	....	....	....	....	....	1.59	....	....	....	1.46	....	....	1.33	1.37	....	....	....	....	....	....	....
41-41.9	....	....	....	....	....	....	....	....	....	....	1.50	....	....	1.37	1.40	....	....	....	....	....	....	....
42-42.9	....	....	....	....	....	....	....	....	....	....	1.54	....	....	1.41	1.44	....	....	....	....	....	....	....
43-43.9	....	....	....	....	....	....	....	....	....	....	1.59	....	....	1.45	1.47	....	....	....	....	....	....	....
44-44.9	....	....	....	....	....	....	....	....	....	....	1.63	....	....	1.49	1.51	....	....	....	....	....	....	....
45-45.9	....	....	....	....	....	....	....	....	....	....	1.67	....	....	1.53	1.54	....	....	....	....	....	....	....
46-46.9	....	....	....	....	....	....	....	....	....	....	1.71	....	....	1.57	1.57	....	....	....	....	....	....	....
47-47.9	....	....	....	....	....	....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....	....
48-48.9	....	....	....	....	....	....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....	....

FOB Standard Pipeline

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.

**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

Index to Advertisers

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Alemite Corp. .....
American Can Co. .....
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Butler Manufacturing Co. 4-5

Canfield Oil Co. .....
Champion Spark Plug Co. 31
Champlin Refining Co. .....
Chevrolet Motor Division, General Motors Sales Corp. .....
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Cincinnati Mfg. Co. .....
Cities Service Oil Co. 35
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Davis Welding & Mfg. Co. .....
Deep Rock Oil Corp. .....
Delco Products .....
Delco-Remy .....
Dodge Division (Chrysler Motors) ..
Du Pont de Nemours & Co., E. I. ... 43

Econo-vent Corp. .....
Erie Meter Systems, Inc. .....
Ethyl Gasoline Corp. 33

Farrell Mfg. Co. .....
Fleet-Wing Corp. .....
Ford Motor Co. .....
Freedom Oil Co. .....
Fruehauf Trailer Co. .....

General American Transportation Corp. 41
General Electric Co. .....
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Giant Tire & Rubber Co. .....
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Gulf Oil Corp. .....

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Humble Oil & Refining Co. .....
Hygienic Products Co. .....

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International Harvester Co. .....
International Metal Hose .....

Johnson-Williams, Ltd. .....

Kellogg Div. of American Brake Shoe & Foundry Co. .....
Kirch-Trumbull Corp. 38

Leland Electric Co. .....

Mack Trucks, Inc. .....
McDonald Mfg. Co., A. Y. .....
Master Electric Co. .....
Morrison Bros. .....First Cover
Mortons Salt .....

National Petroleum News .....
National Pumps Corp. 1
Neptune Meter Co. .....
New York Lubricating Co. .Second Cover

Ohio Oil Co. .....
Overhead Door Corp. .....

Paraflow .....
Penola, Inc. .....
Pennsylvania Grade Crude 7
Pennsylvania Petroleum Products ..
Philadelphia Valve Co. .....
Pioneer Oil Co. .....
Pittsburgh Equitable Meter Co. ....
Pump & Meter Mfg. Co., The .....
Pure Oil Co. .....

Republic Oil Co. .....
Roper Corp., Geo. D. .....

Sani-Flush (The Hygienic Products Co.) .....
Service Station Equipment Co. ....
Shell Oil Co. .....
Shell Oil Co., Inc. .....
Sinclair Refg. Co., Inc. .....
Smith Meter Co. .....
Socony-Vacuum Oil Co. .....
Standard Oil Co. of N. J. .....
Standard Steel Works .....
Stefco Steel Co. .....
Stewart-Warner Corp. .....
Sun Oil Co. .....Third Cover

Texaco Development Corp. .....
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Piping Draftsmen for Oil Refinery work, capable of making good drawings and having sufficient experience to qualify as checkers. State full experience record, age and salary. Arthur G. McKee & Co., 2422 Euclid Avenue, Cleveland, Ohio.

Wanted: Experienced lubricating oil salesman to introduce extremely low cold test oil in Northern States. Must have experience and contacts. Good opportunity for right man. Box No. 507.

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Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

"STRICTLY PERSONAL"

After many a smashing drive, loss of a few tees, "blessing" a few clubs and comparing several scores, at annual golf party of Chicago Oil Men's Club, June 19 at Riverside Golf Club, Ken Ward, Amco Corp., was low man for second straight year. Other winners, in order of their scores, were:

Holger Jensen, Spencer Petroleum Co.; **Ernie Youngberg,** Pana Refining Co.; **Wilson Henry,** Valvoline Oil Co.; **R. Smith,** Globe Oil and Refining Co.; **R. G. Satterley,** Arrow Petroleum Co.; **George Williams,** Williams Petroleum Corp.; **J. L. Minner,** Shell Oil Co., Inc.; **Bill Franke,** American Mexican Petroleum Corp.; **F. E. Spencer,** Spencer Petroleum Co.; **P. Crippen,** Apex Motor Fuel Co.; **E. C. Scurlock,** Scurlock Oil Co.., Houston, Tex.; **I. Schurman,** Consumers Petroleum Co.; **M. G. McGrath,** Transamerican Petroleum Corp.; **F. Keller,** Keller-Hart Lumber and Fuel Co.; **R. Seidel,** Shell Oil Co., Inc.; **"Bud" Waller,** Petroleum Marketer; **J. McDonald,** Smith Meter Co.; **Mel Hill,** Johnson Refining Co.; **B. Rourke,** Petroleum Marketer.

* * *

Dr. Frank M. Surface, New York, director of sales research, Standard Oil Co. of N. J., was elected vice-president of Market Research Council at a recent meeting in New York City.

* * *

C. S. Mote is now service station sales promotion manager of Ohio Standard's Columbus division. He started with the company, 10 years ago, as a service station operator.

* * *

Antiques of priceless value are said to have been collected by **Mr. and Mrs. J. W. Harsha,** West Union, O. Mr. Harsha is head of the J. W. Harsha Oil Co. Both Mr. and Mrs. Harsha have been collectors of antiques for many years.

* * *

Canadian fishing recently lured **J. C. Martin,** executive secretary of Bradford District Pennsylvania Oil Producers' Assn., and **J. Paul Jones,** Bradford oil operator. No stories about "well it was that long, but got away" have been reported.

* * *

T. "Ted" J. Wiegand has been appointed manager of trade sales of The Glidden Co., Cleveland. Mr. Wiegand was with National Refining Co. for over 18 years, and was sales manager and secretary of this organization when he resigned recently.

* * *

Invaders from Mexico planning to cross the Rio Grande will get "hot pants," if plans announced by "War Strategist" **Jerry Sadler,** Texas railroad commissioner go into effect.

He says: "If only 20 wells would turn oil into the Rio Grande and the oil was then set afire, it would be impossible for any invading to cross."

And the government might pay for this oil on grounds of national defense—unless Secretary Ickes invokes the Connally Law to prevent movement of the "hot oil."

* * *

When **Roy Coons,** manager of Primary Oil Co., and **Ralph Carnahan,** Continental Oil Co. merchandiser, called on an Iowa farmer recently, they found the son of the sod shucking corn. So, the Messrs. Coons and Carnahan pitched in and helped. The harvest: an order for a 30-gal. drum of oil. It was not reported that this "farmer service" became a routine; but it is known that in 6 days, these men sold 650 gals. of oil.

* * *

Harry M. Rugg, Detroit, field representative of Pennsylvania Grade Crude Oil Assn., received the degree of Bachelor of Science in mechanical engineering from Detroit Institute of Technology at its commencement exercises, June 10. He carried a course of 5 subjects during the past year in addition to his regular work in order to complete requirements for the degree. His work with the association is closely connected with automotive engineering profession, keeping posted on developments affecting lubrication.

* * *

L. L. Davis, Ponca City, process supervisor of Continental Oil Co., led a group discussion on "Oxidation of Lubricants," June 20, as part of the summer conference of the American Assn. for the Advancement of Science, Gibson Island near Baltimore. First week of conference was devoted to "Frontiers of Petroleum." Conference commenced June 17 and continues until August 4.

* * *

Henry Piper, Sinclair sales representative in the Pittsburgh district, announces the annual Grand Outing of The Social Security Clam Bake and Fish Fry Association Amalgamated, Friday, June 28, at the Perry Highway Hotel, Wexford, Pa., on Route 19. About a dozen of the western Pennsylvania "younger generation" are members of the "club." A number of "guests" have been invited to this year's outing. There will be golf, and, if **Miles Wiseman** of Cleveland's Allied Oil Co. could persuade the game warden to advance the hunting season, there would also be duck shooting.

* * *

Paging the lady who ducked. This is the problem of **C. T. Gregg,** Birmingham, night service station manager for Standard Oil Co. of Kentucky, who replied "with pleasure," when a lady said: "Will you keep my duck for me until I return?" While the original duck has since departed to a "ducky heaven," due to stray tomcat, Mr. Gregg "duplicated the duck," calls it "Kyso," and is awaiting the lady's return.

* * *

While on the subject of the "desultory reader," **Dan Moran,** Ponca City, Okla., recently said: "Personally, I would suffer the tortures of Hades if I did not at least make a memorandum of a word the meaning of which I did not know. It is an obligation I owe myself to take the time that the use of a dictionary requires, for within its covers is a liberal education to any business man who has the duty of conveying correct thought."

* * *

R. G. A. Van der Woude, New York, chairman of the board of Shell Oil Co., Inc., has accepted chairmanship of the petroleum division of greater New York Men's Committee in the nation-wide campaign for $3,000,000 for relief of Netherlands' refugees.

* * *

William D. Davis, Coddy's Bluff, Okla., Phillips Petroleum Co.'s junior engineer, was awarded $100 by the American Institute of Mining and Metallurgical Engineers, for a paper on "Water Flooding in Northeastern Oklahoma."

* * *

George L. Horton, Indianapolis, president Horton Oil Co., was a guest of friends in Tulsa the past week. He was en route home from visiting his family in New Mexico.

* * *

For having the best no-accident record of any driver of commercial vehicle, **Waller R. Young,** Standard Oil Co. of Indiana city salesman, was awarded the National Safety Council certificate.

* * *

Ed Larson, Churches Ferry, N. D., Pure Oil Co. dealer, does not sell aviation gasoline; but recently he serviced an airplane which was forced to land a few feet from his gasoline pumps. Story goes that Dealer Larson gave this pilot the regular "bumper to bumper" service. At any rate, he did wipe off the windshield and say "call again."